

# User's Manual

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## FastPrint Server

Printer Sharing Device





**FCC Statement:**

This device complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. Operation is subject to the following two conditions:

This device may not cause harmful interference, and,

This device must accept any interference received, including interference that may cause undesired operation.

**CE Marking Warning**

This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Document Version: 1.1

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### ◆ Important Safety Instructions

1. Unplug this device from its power source before cleaning. Use only a slightly dampened cloth for cleaning. Do not use liquid or aerosol cleaners.
2. Avoid using this product near water. Exposure to water poses an electric-shock hazard.
3. Do not place this device on an unstable surface. The device may fall causing serious damage to the device.
4. This device should only be used with the power supply type specified on the marking label. If you are not sure of the type of your local power supply, consult your dealer or local power company.
5. Do not pinch, crimp or otherwise damage the power cord. If exposed to foot traffic, ensure that the cable is properly shielded and does not pose a tripping hazard.
6. If using an extension cord, make sure the total ampere rating of the products using the cord does not exceed the extension cord's ampere rating.
7. Do not attempt to service this device, as opening or removing casing may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
8. The device should be serviced by qualified service personnel under the following conditions:
  - The power cord is damaged or frayed.
  - Liquid has been spilled on the product.
  - The product has been exposed to rain or water.
  - The product does not operate normally in accordance with the operating instructions.
  - The device has been dropped or the casing has been damaged.

# TABLE OF CONTENTS

---

1. Introduction .....	1
<b>1.1. Package contents .....</b>	<b>1</b>
<b>1.2. Features.....</b>	<b>2</b>
1.2.1. LED Indicators .....	3
1.2.2. 10/100BaseT Switches .....	3
2. LAN Installation.....	4
<b>2.1. Installation procedure .....</b>	<b>4</b>
3. AppleTalk .....	6
<b>3.1. Software requirements .....</b>	<b>6</b>
<b>3.2. AppleTalk setup .....</b>	<b>6</b>
<b>3.3. Printing.....</b>	<b>6</b>
<b>3.4. Advanced setup and management .....</b>	<b>7</b>
3.4.1. Changing the FastPrint configuration .....	7
3.4.1.1. Windows software.....	7
3.4.1.2. Macintosh software .....	7
3.4.2. AppleTalk Settings .....	8
4. Novell NetWare .....	9
<b>4.1. Configuration overview .....</b>	<b>9</b>
4.1.1. Requirements .....	9
4.1.2. Operating modes.....	9
4.1.2.1. Print Server mode .....	9
4.1.2.2. Remote printer mode.....	9
4.1.3. Configuration methods .....	10
<b>4.2. Preparation .....</b>	<b>10</b>
<b>4.3. Configuration using Quickset .....</b>	<b>10</b>
4.3.1. NetWare Print Server mode .....	10
4.3.1.1. Syntax.....	11
4.3.2. Novell Remote Printer Mode.....	11
4.3.2.1. Syntax.....	12
<b>4.4. Using PCONSOLE / PSCONFIG.....</b>	<b>12</b>
4.4.1. Novell Print Server mode.....	13
4.4.1.1. Print server mode in NetWare 2.x, 3.x.....	13
4.4.1.2. Print server mode in NetWare 4.x (bindery emulation).....	14
4.4.1.3. Printer server mode in NetWare 4.X (NDS mode) .....	15
4.4.2. Novell remote printer mode .....	15
4.4.2.1. Remote printer assignments .....	15
4.4.2.2. Remote printer mode in NetWare 2.x, 3.x .....	16

4.4.2.3.	Remote printer mode in NetWare 4.X (NDS mode) ....	16
<b>4.5.</b>	<b>Printing .....</b>	<b>18</b>
<b>4.6.</b>	<b>Configuration Settings .....</b>	<b>19</b>
4.6.1.	General FastPrint Server Settings .....	19
4.6.2.	Configuration using PSCONFIG.....	19
4.6.3.	NetWare-specific settings .....	19
4.6.3.1.	Novell remote printer mode.....	19
4.6.3.2.	Novell Print Server mode .....	20
4.6.3.3.	Service additional NetWare bindery file servers.....	21
4.6.3.4.	Attach to more than one NetWare Print Server.....	21
4.6.3.5.	Logical printers .....	21
4.6.3.5.1.	Configuring NetWare .....	21
4.6.3.5.2.	Configuring the FastPrint Server .....	22
<b>5.</b>	<b>TCP/IP .....</b>	<b>23</b>
<b>5.1.</b>	<b>Software requirements .....</b>	<b>23</b>
<b>5.2.</b>	<b>FastPrint Server configuration.....</b>	<b>23</b>
5.2.1.	IP address configuration .....	23
5.2.2.	FastPrint Server IP address.....	24
5.2.3.	Other configuration settings .....	24
5.2.4.	Logical printers .....	25
5.2.4.1.	Logical printer setup .....	25
<b>5.3.</b>	<b>Unix host configuration.....</b>	<b>25</b>
5.3.1.	Static IP address configuration.....	25
5.3.2.	Dynamic IP address Configuration .....	26
5.3.2.1.	Using DHCP .....	26
5.3.2.2.	Using BOOTP.....	26
5.3.2.3.	Using RARP.....	27
<b>5.4.</b>	<b>Printing configuration.....</b>	<b>28</b>
5.4.1.	LPD configuration .....	29
5.4.1.1.	LPD on IBM AIX 4.15.....	29
5.4.1.2.	LPD on System V.....	29
5.4.1.2.1.	Adding remote printers.....	30
5.4.1.3.	LPD on BSD .....	31
5.4.2.	Printing using LPD.....	31
5.4.3.	Printing using FTP .....	31
5.4.4.	Printing using DSI .....	32
5.4.5.	Printing using PSfilter .....	32
5.4.5.1.	PSfilter Setup .....	32
5.4.5.1.1.	Setup instructions.....	32
5.4.5.2.	PSfilter printing methods .....	33
<b>5.5.</b>	<b>Windows NT host configuration.....</b>	<b>33</b>
5.5.1.	IP address configuration .....	33
5.5.2.	Preparing for TCP/IP Printing .....	34

5.5.2.1.	Windows NT 3.51 .....	34
5.5.2.2.	Windows NT 4.0 .....	34
5.5.3.	Adding a TCP/IP remote printer .....	34
5.5.3.1.	Windows 3.51 .....	34
5.5.3.2.	Windows NT 4.0 .....	35
5.5.4.	Printing with Windows NT .....	35
5.5.4.1.	Windows applications .....	35
5.5.4.2.	Command line.....	35
<b>6.</b>	<b>TCP/IP Features .....</b>	<b>36</b>
<b>6.1.</b>	<b>FTP .....</b>	<b>36</b>
6.1.1.	Using FTP.....	36
6.1.1.1.	Files .....	36
6.1.1.2.	Commands.....	36
6.1.1.3.	Example: Initial configuration.....	37
<b>6.2.</b>	<b>Internet printing .....</b>	<b>38</b>
6.2.1.	System requirements.....	38
6.2.2.	Internet mail printing configuration .....	39
6.2.3.	User software .....	40
6.2.3.1.	Installation.....	40
6.2.3.2.	Using the new port.....	41
6.2.3.3.	Checking the printer driver .....	42
6.2.4.	Printing .....	42
6.2.5.	Canceling a print job .....	43
<b>6.3.</b>	<b>SNMP management .....</b>	<b>43</b>
6.3.1.	Preparing the FastPrint Server for SNMP .....	43
6.3.2.	SNMP settings .....	43
6.3.2.1.	Management station settings .....	44
6.3.2.2.	Trap receiving station settings.....	44
6.3.2.3.	FastPrint Server MIB .....	44
<b>7.</b>	<b>Windows Peer-to-Peer .....</b>	<b>45</b>
<b>7.1.</b>	<b>Software requirements .....</b>	<b>45</b>
<b>7.2.</b>	<b>Configuration requirements .....</b>	<b>45</b>
<b>7.3.</b>	<b>Software installation.....</b>	<b>45</b>
7.3.1.	Windows 95 / Windows NT .....	45
7.3.2.	Windows for Workgroups .....	46
<b>7.4.</b>	<b>FastPrint Server configuration.....</b>	<b>46</b>
7.4.1.	NetBEUI .....	46
7.4.2.	TCP/IP.....	46
<b>7.5.</b>	<b>Software configuration .....</b>	<b>47</b>
7.5.1.	Configuration settings.....	47
7.5.2.	Windows 95/NT 4.0.....	47
7.5.2.1.	First port configuration .....	47
7.5.2.2.	Configuring additional ports .....	48

7.5.3.	Windows NT 3.51 .....	50
7.5.3.1.	First port configuration .....	50
7.5.3.2.	Configuring additional ports .....	51
7.5.4.	Windows for Workgroups .....	52
7.5.4.1.	Pserver main screen .....	52
7.5.4.2.	Pserver icons and commands.....	52
7.5.4.3.	Pserver configuration .....	53
7.5.4.4.	Control Panel configuration .....	53
<b>7.6.</b>	<b>Printing.....</b>	<b>54</b>
<b>8.</b>	<b>Management Tools .....</b>	<b>55</b>
<b>8.1.</b>	<b>FPSAdmin .....</b>	<b>55</b>
8.1.1.	Installation .....	55
8.1.2.	Main screen .....	55
8.1.3.	Icons.....	56
8.1.3.1.	NetBEUI Settings.....	59
8.1.3.2.	Printer configuration .....	61
8.1.4.	Menu Options .....	62
8.1.4.1.	InitDevice menu.....	62
8.1.4.2.	Configuration menu .....	62
8.1.4.3.	Diagnostics menu.....	63
8.1.4.4.	Control menu .....	63
<b>8.2.</b>	<b>WebAdmin.....</b>	<b>63</b>
8.2.1.	System requirements.....	63
8.2.2.	Server installation .....	63
8.2.3.	Running the program.....	64
8.2.3.1.	Status .....	65
8.2.3.2.	Configuration.....	65
8.2.3.3.	Diagnostics .....	66
<b>8.3.</b>	<b>WPCONFIG .....</b>	<b>67</b>
8.3.1.	Installation .....	67
8.3.2.	Using WPCONFIG .....	67
8.3.3.	Icons.....	68
8.3.4.	Menu options .....	69
<b>Appendix A.</b>	<b>Troubleshooting .....</b>	<b>70</b>
<b>A.1.</b>	<b>Hardware .....</b>	<b>70</b>
<b>A.2.</b>	<b>Printing - General .....</b>	<b>70</b>
<b>A.3.</b>	<b>Printing - AppleTalk .....</b>	<b>71</b>
<b>A.4.</b>	<b>Printing - NetWare .....</b>	<b>74</b>
<b>A.5.</b>	<b>Printing - Unix .....</b>	<b>77</b>
<b>A.6.</b>	<b>Printing - Windows .....</b>	<b>79</b>
<b>A.7.</b>	<b>Internet Printing .....</b>	<b>80</b>



	A.8. WebAdmin	81
<b>Appendix B.</b>	Specifications .....	82
<b>Appendix C.</b>	Configuration File Format .....	83
<b>Appendix D.</b>	SNMP MIB .....	87
	D.1. PSSystemConfig group	87
	D.2. PSLogicalPrinterConfig group	87
	D.3. PSNetwareConfig group	88
	D.4. PSTcpipConfig group	88
	D.5. PSAppleTalkConfig group	88
	D.6. PSNetbeuiConfig group	89
	D.7. PSStatus group	89
	D.8. PSIPXStatistics	89
	D.9. PSAppleTalkStatistics	89
	D.10. PSTcpipStatistics	90
	D.11. PSControl group	90
	D.12. Traps	90



# 1. Introduction

*This chapter provides an overview of your FastPrint Server's features.*

Congratulations on the purchase of your new FastPrint Server. The FastPrint is designed to provide a simple and efficient network printing solution. It is packed with features, including:

- **Versatility.** The FastPrint Server supports up to five protocols: NetWare, TCP/IP, SMB (Service Message Block), AppleTalk (EtherTalk), and NetBEUI. It features two Ethernet interface ports. Operating system support includes Unix, Linux, Novell, and Microsoft Windows.
- **Easy Installation.** The FastPrint Server makes adding printers or plotters to your network simple. It supports both 10BaseT and 100BaseT connections. Its LAN interface auto-sensing feature means that there is no need to set jumpers or perform software configuration to select the network interface used.
- **Compact Size.** The FastPrint can be used even where space is limited.
- **Remote Management Tools.** A variety of software tools are provided. In most environments, both the FastPrint Server and attached bi-directional printers can be configured remotely.
- **SNMP Support.** The FastPrint Server can act as a SNMP agent, with its own MIB. This allows TCP/IP users to monitor, configure and troubleshoot the FastPrint using their existing SNMP management tools.
- **Internet Printing.** Using TCP/IP, the FastPrint can be configured to allow clients, suppliers, colleagues and others to print to one of your printers from anywhere on the Internet.

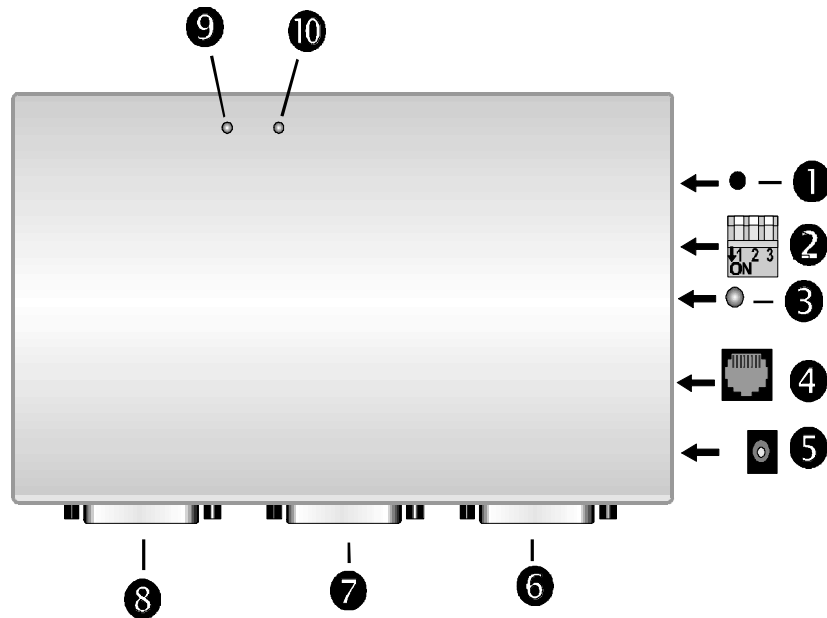
## 1.1. Package contents

You should find the following items packaged with your FastPrint Server. If any items are missing, contact your dealer immediately.

- The FastPrint Server
- Power adapter
- One CD-ROM containing all support programs and this manual

## 1.2. Features

The FastPrint Server's UTP connector supports both 10BaseT and 100BaseT. Its three bi-directional parallel ports support simultaneous printing.



**Figure 1 FastPrint Server**

- ❶ Reset Button
- ❷ 10/100BaseT Switches.  
(See DIP switch table for details.)
- ❸ 10/100BaseT Link LED
- ❹ 10/100BaseT Connector
- ❺ 12V Power port
- ❻ Parallel Port 1
- ❼ Parallel Port 2
- ❽ Parallel Port 3
- ❾ Red Error LED
- ❿ Green Link LED

### 1.2.1. LED Indicators

There are two LED indicators on the top of the FastPrint Server. The red LED is the Status/Error indicator. The green LED is the Power/Link indicator. See the previous figures to locate the LEDs on your model. The LED indicator modes are described in the following table.

Green LED	Red LED	Status Description
Solid Off	Solid Off	No power.
Solid On	Solid On	Hardware error.
Solid On	Solid Off	Normal operation.
Flashing	Off	Transmitting or receiving packets from the network.

**Table 1: LED Indicators**

### 1.2.2. 10/100BaseT Switches

The FastPrint has 2 DIP switches. See the previous diagrams to locate these switches. Operation of these switches is described below.

Switch	Description
<b>1</b>	Auto Negotiation Switch. When ON (UP position), the FastPrint will select 10BaseT/100BaseT and Full/Half Duplex as required. The recommended position is ON; switches 2 & 3 are disabled when Auto Negotiation is ON.
<b>2</b>	10/100BaseT Manual Select Switch. Set UP for 100BaseT or DOWN for 10BaseT. Switch 1 must be OFF for this switch to function.
<b>3</b>	Full/Half Duplex Switch. Set UP for Full duplex operation or DOWN for Half Duplex operation. Switch 1 must be OFF for this switch to function.

**Table 2: DIP Switches**

## 2. LAN Installation

*This chapter will help you to install the FastPrint Server in your Local Area Network.*

Once installed, the FastPrint Server acts as a node in the local area network with its own unique network address.

### 2.1. Installation procedure

#### 1. Find the default FastPrint Server name

The default name is located on a bar code sticker attached to the bottom of the FastPrint. It will be in the form “SCxxxxxx”.

**Note:** *The default name begins with the letters “SC”, followed by 6 hexadecimal characters. These characters may include the numbers “0” through “9” and the letters “A” through “F”.*

This name will be needed during configuration.

**Note:** *During configuration you will be able to change the FastPrint Server name. The new name **must not** contain any spaces or blanks.*

#### 2. Connect the printer cables

Connect the printer or plotter cable(s) to the appropriate port(s) on the FastPrint . Parallel port cables should be less than 3 meters long.

**Note:** *Leave the FastPrint Server powered OFF while connecting it to the printer(s) and the LAN.*

#### 3. Connect the network cable

- Connect the network cable (BNC or UTP) to the proper connector on the FastPrint Server. The FastPrint Server will automatically recognize whichever connector is used.
- Set the 10/100BaseT Switches as described in Chapter 1. Whenever possible, use the auto negotiation setting. If the auto negotiation fails, the 10/100BaseT Link LED will not light when the FastPrint is powered up. In this case, check the cable, then press the reset button. If the 10/100BaseT Link LED still does not light, disable the auto negotiation function and manually set switches 2 and 3.

#### 4. Connect the power adapter cable

Plug in the power adapter cable. Check the Power and Status LED indicators on the top of the FastPrint. When the Red Status indicator LED goes out and the Green Power indicator LED remains lit or flashes, the FastPrint is ready.

**Warning!** *Use only the power supply provided with the FastPrint. Other power supplies may not function correctly, and may void your warranty.*

## **5. Mount the FastPrint Server**

The FastPrint may be “snapped” on to other members of the LanEdge family to conserve working space.

## 3. AppleTalk

*This chapter explains the use of the FastPrint Server in the AppleTalk environment.*

The FastPrint Server supports AppleTalk (EtherTalk), PAP, ATP, NBP, ZIP and DDP protocols, enabling Macintosh computers on the network to view and use the FastPrint as a regular AppleTalk printer. Configuring and printing in the EtherTalk environment operates normally.

The PSTool program has been provided specifically for the Macintosh environment, to allow easy configuration of your FastPrint.

### 3.1. Software requirements

- System 7.x OS or newer.

### 3.2. AppleTalk setup

1. Click the apple icon and choose Control Panel.
2. Click Network.
3. Make sure that EtherTalk is selected under AppleTalk Connection. If it is not selected, do so now.
4. Click Chooser. The Chooser panel will open.
5. Click on either the LaserWriter 8 icon (recommended) or the LaserWriter 7 icon. LaserWriter 8 makes use of the fonts installed in the printer itself, so the printing response time is quicker. LaserWriter 7 uses the fonts installed in the computer, which increases network traffic and takes more printing time.

**Note:** *Be sure you are using the LaserWriter 8.5.1 driver.*

6. Select a FastPrint Server from the printer list by clicking on the appropriate name.

**Note:** *The default FastPrint name begins with the letters "SC", followed by 6 hexadecimal characters. These characters may include the numbers "0" through "9" and the letters "A" through "F".*

*You can find this name on the bar code label on the bottom of the FastPrint.*

7. Click on the *Close* box. This closes Chooser and completes the FastPrint setup process. Printing commands will operate as usual, with output routed to the FastPrint Server printer.

### 3.3. Printing

Printing with the FastPrint installed in an AppleTalk network is identical to normal printing. For example, select a document that you want to print and then select *File - Print*. Chose the desired printer.



## 3.4. Advanced setup and management

This section explains the configuration changes that can be made to your FastPrint.

### 3.4.1. Changing the FastPrint configuration

#### 3.4.1.1. Windows software

*Chapter 8 - Management Tools* describes the general-purpose management tools that can be used to configure and manage your FastPrint. All of these programs require a version of Microsoft Windows.

The FPSAdmin program, which requires Windows 95 or Windows NT, allows access to **all** settings, not just those important in the AppleTalk environment.

#### 3.4.1.2. Macintosh software

In AppleTalk, you can use **SimpleText** to edit the FastPrint Server's CONFIG file and the supplied **PSTool** program to send it to the FastPrint. The procedure is as follows:

1. Copy the following files from the Utility\Apple folder on the CD-ROM to an appropriate folder on your hard disk.

**PSTool**  
**CONFIG.3p**

2. Use **Chooser** to select the desired FastPrint Server.
3. Double click the CONFIG file, and edit it. The file should look similar to the example below, although it may vary a bit.

```
begin CMD
0001 Device Name: SCxxxxxx
3000 Apple Zone : *
3001 Printer Type (P1): LaserWriter
3002 Printer Type (P2) LaserWriter
3004 Printer Type (P3) LaserWriter
3101 AP_PCOMM1: No
3102 AP_PCOMM2: No
3103 AP_PCOMM3: No
3104 AP_PCOMM4: No
9002
```

The appropriate values for each line are described in the *AppleTalk Settings* section, below.

**Note:** *Do not modify the following lines:*  
beginCMD  
9002:

4. Save the file.
5. Double click the icon for PSTool.
6. Click the Printer submenu and choose *Download Postscript File*. A panel will appear with a list of files.
7. Click the CONFIG file. Then click *Download*.

### 3.4.2. AppleTalk Settings

When editing the CONFIG file, only the *parameter* should be changed. The parameter is the last part of the line, after the colon (:). Be sure that you use only valid parameters.

#### 0001 Device name: SCxxxxxx

The default name will be in the form “SCxxxxxx”.

**Note:** *The default FastPrint name begins with the letters “SC”, followed by 6 hexadecimal characters. These characters may include the numbers “0” through “9” and the letters “A” through “F”. You can find this name on the bar code label on the bottom of the FastPrint.*

You may change this name if you like. However, the new name **must not** exceed 19 characters in length.

#### 3000 Apple Zone: \*

The default value “\*” allows all AppleTalk zones to access the FastPrint’s printers. To restrict access to a particular zone, enter the zone name here.

#### 3001 Printer type (P1): LaserWriter

#### 3002 Printer type (P2) LaserWriter

#### 3004 Printer type (P3) LaserWriter

These are text fields, used to describe the printer driver used for each port. P1, P2 and P3 refer to the specific parallel ports. The name can be up to 19 characters long.

#### 3101 AP\_PCOMM1: No

#### 3102 AP\_PCOMM2: No

#### 3104 AP\_PCOMM4: No

These settings determine whether the port uses ASCII or binary Communication Protocol. Enter NO for ASCII or YES for binary. The lines refer to the following ports.

3101 AP_PCOMM1:	Parallel Port 1
3102 AP_PCOMM2:	Parallel Port 2
3104 AP_PCOMM4:	Parallel Port 3

In choosing which protocol to use, consider the following points.

- Binary communication is twice as fast as ASCII.
- ASCII communication is more reliable.
- The computer, FastPrint Server and printer **must** all be configured to use the SAME protocol. Check your printer manual for details of printer configuration, and use the *Print* menu to configure your computer, so that they use the same settings as the FastPrint.

## 4. Novell NetWare

*This chapter will help you to configure and use the FastPrint Server in the Novell NetWare environment.*

### 4.1. Configuration overview

This section outlines the checks and decisions to be made before proceeding with configuration under NetWare.

#### 4.1.1. Requirements

- NetWare 2.2, NetWare 3.1x or NetWare 4.x.
- NetWare PCONSOLE V1.21 or higher in the file server.
- NetWare Print Server V1.22 or higher (remote printer mode only).
- DOS 3.3 or higher on workstations.
- Hardware installation must be completed.

#### 4.1.2. Operating modes

Two operating modes are possible: *Print Server* and *Remote Printer*.

**Print Server** mode is faster and uses fewer resources than Remote Printer mode. However, it does occupy a user login slot. **Remote Printer** mode does not use a login slot, but it is slower and uses more resources.

Print Server mode should be used if possible.

##### 4.1.2.1. Print Server mode

The FastPrint Server emulates NetWare PSERVER. When activated, the FastPrint will perform the following operations:

- Login to specified NetWare file server(s).
- Poll the specified print queues.
- If there are print jobs in the print queues, then the FastPrint Server will send them to the printer(s).

##### 4.1.2.2. Remote printer mode

The FastPrint Server emulates a NetWare remote printer. After the FastPrint is activated, it will perform the following operations:

- Connect to NetWare PSERVER.
- Receive the print jobs sent by PSERVER.
- Convert the packet format to an acceptable printer format, and send the data to the printer.

### 4.1.3. Configuration methods

Either of the following methods can be used to set up the FastPrint Server in the NetWare environment.

#### ◆ Quickset

The QUICKSET program will configure both the FastPrint Server and the current Novell server in a single operation.

#### ◆ PCONSOLE and PSconfig

If you prefer, you may use PCONSOLE to set up the FastPrint configuration in the NetWare file servers. You will then need to use PSCONFIG to configure the FastPrint.

## 4.2. Preparation

Copy all files in the \Utility\Dos directory on the CD-ROM to your workstation's hard disk. The QUICKSET and PSCONFIG programs are in this directory.

If you want to install the FastPrint on an NDS network, log in the NDS network as ADMIN or as a user with *Admin* rights.

If you want to install the FastPrint on bindery-based file servers, such as NetWare 2.X or 3.X, log in to a bindery-based file server as a SUPERVISOR or as a user with supervisory rights.

## 4.3. Configuration using Quickset

This section tells you how to use the Quickset program to configure the Novell server and the FastPrint Server.

**Note:** Enter "Quickset /?" to display a help screen.  
In the "Syntax" sections, brackets ( ) indicate optional parameters.  
To use more than one bindery file server, see *Service additional NetWare bindery file servers* on page 21.

### 4.3.1. NetWare Print Server mode

Quickset uses the following settings in NetWare Print Server mode:

Parameter	Setting
Ethernet 802.2 frame type	Enable
Ethernet 802.3 frame type	Enable
Ethernet SNAP frame type	Enable
Ethernet II frame type	Enable
Polling NetWare queues interval	1 second
Job notification	By login name
Master file server	Set this as the specified server (in bindery based file server environment)
Context name	Set this to the current context name (in NDS environment)

NDS tree name	Set this to the current NDS tree name (in NDS environment)
NetWare operation mode:	Print Server mode
Device name	Set this as specified in the parameter list
Device password	NULL

#### 4.3.1.1. Syntax

##### Bindery-based file server

Quickset **Name** (/UN=P) (/Q1=W) (/Q2=X) (/Q3=Y) (/FS=F)

##### NDS Network

Quickset **Name** (/UN=P) (/Q1=W) (/Q2=X) (/Q3=Y)

Parameter	Meaning
<b>Name</b>	The default name as displayed on the bar code label on the bottom of the FastPrint Server.
<b>P</b>	New name of the FastPrint.
<b>W, X, Y</b>	<b>W, X and Y</b> are the names of the queues to be serviced by parallel ports 1 to 3. P1, P2 and P3 are the default queue names.
<b>F</b>	<b>F</b> is the name of the master file server of the FastPrint. When multiple file servers are serviced, this information is stored in the master file server.

QUICKSET will create a print server object, printer objects and queue objects with the current context and current tree that the user logs on to. The printer names will be set to dv\_P1, dv\_P2 and dv\_P3, where dv is the FastPrint Server default name, and P1, P2 and P3 indicate the port.

##### Example: Bindery environment

Quickset SC123456 /UN=Marketing /FS=Net311

In this example, FastPrint SC123456 has been set up as a Novell Print Server. Its new name is *Marketing* and its Master File Server is Net311.

##### Example: NDS environment

Quickset SC123456 /UN=Marketing

In this example, SC123456 has been renamed *Marketing* and set up as a Novell Print Server in the current NDS network.

#### 4.3.2. Novell Remote Printer Mode

In NetWare Remote Printer mode, Quickset uses the following settings:

Parameter	Setting
Ethernet 802.2 frame type	Enable
Ethernet 802.3 frame type	Enable
Ethernet SNAP frame type	Enable
Ethernet II frame type	Enable
NetWare Print Server	Set the attached NetWare Print Server as the specified server
NetWare Operation Mode	Remote Printer Mode

FastPrint name	Set this as specified in the parameter list
----------------	---

**Note:** *Quickset configures all the FastPrint's printer ports to service the same NetWare Print Server. If you want to configure the ports to service different NetWare Print Servers, please see Attach to more than one NetWare Print Server on page 21.*

#### 4.3.2.1. Syntax

##### Bindery-based file server

Quickset **Name R** (UN=P) (/Q1=W) (/Q2=X) (/Q3=Y) /FS=F

##### NDS Network

Quickset **Name R** (/UN=P) (/Q1=W) (/Q2=X) (/Q3=Y)

Parameter	Meaning
<b>Name</b>	The default FastPrint Server name, as displayed on the bar code label on the bottom of the FastPrint.
<b>R</b>	<b>R</b> is the name of the NetWare Print Server that the FastPrint Server will connect to.
<b>P</b>	The new name of the FastPrint.
<b>W, X, Y</b>	<b>W, X and Y</b> are the names of the queues to be serviced by parallel ports 1 to 3, respectively. If you do not enter <b>W, X or Y</b> , then the default queue names will be P1, P2 and P3 for parallel ports 1 to 3.
<b>F</b>	<b>F</b> is the name of the file server that the NetWare Print Server R logs on to.

##### Example: Bindery environment

Quickset SC123456 PS1 /UN=Marketing /FS=Net311

In this example, FastPrint SC123456 has been set up as a remote printer that is attached to the NetWare Print Server, PS1, on the Net311 file server.

##### Example: NDS environment

Quickset SC123456 PS1 /UN=Marketing

In this example, FastPrint SC123456 has been set up as a remote printer that is attached to the NetWare Print Server PS1. Its new name is Marketing.

## 4.4. Using PCONSOLE / PSCONFIG

After you use PCONSOLE to configure the Novell server, the FastPrint must be configured.

This section tells you how to use PSCONFIG to perform this task. However, the other programs described in *Chapter 8 - Management Tools* could be used instead.

#### 4.4.1. Novell Print Server mode

Before you begin, please note the following information:

##### ◆ Novell printer numbers

NetWare printer numbers match FastPrint ports as follows.

Novell printer number	FastPrint Server port
Printer number 0	Parallel port 1
Printer number 1	Parallel port 2
Printer number 2	Parallel port 3

##### ◆ Assigning users to printer queues

If you have created new printer queues, you may also need to use PCONSOLE to designate any users who need to use the print queues as queue users.

#### 4.4.1.1. Print server mode in NetWare 2.x, 3.x

Follow the steps listed below to configure the FastPrint in NetWare Print Server mode.

##### 1. Create queues

**Note:** *If you are setting up the FastPrint Server for use with existing queues, proceed to step 2.*

- (a) Log into a NetWare file server as a SUPERVISOR or as a user with SUPERVISOR rights.
- (b) Run **PCONSOLE** program.
- (c) Select *Print Queue Information* (or skip to step 6 if you do not need to add new queues).
- (d) Press **[Ins]** key to add a new queue.
- (e) Type a queue name, and press **[ENTER]**.
- (f) Repeat steps (d) and (e) until you have the desired number of queues.

##### 2. Add a Novell Print Server

Follow these steps to inform NetWare that a FastPrint Server exists.

- (a) From the PCONSOLE Main Menu, select *Print Server Information*
- (b) Press **[Ins]** key to add a new Print Server.
- (c) Enter your desired Print Server name.

##### 3. Assign printers

Follow these steps to associate the NetWare printer objects with the FastPrint's printer ports.

- (a) Select the Novell Print Server added in step 2.
- (b) Select *Print Server Configuration*.
- (c) Select *Printer Configuration*.
- (d) Select the print number, using the printer numbers shown on page 13.
- (e) Press **[Esc]**.
- (f) Select YES.

- (g) Repeat steps (d), (e) and (f) for each printer port.

#### 4. Associate printers with print queues

Follow the steps below to associate print queues with the printer(s) attached to the FastPrint Server.

- (a) Select *Queues Serviced by Printer* from the Print Server Configuration Menu.
- (b) Select a printer to which you want to assign a print queue.
- (c) Press **[Ins]**.
- (d) Select the queue that you want the printer to service.
- (e) Press **[Enter]** twice.
- (f) Repeat steps (a) to (e) until all printer and queue associations are configured completely.
- (g) Exit PCONSOLE.

#### 5. Configure the FastPrint Server

- (a) Run the **PSCONFIG** program.
- (b) Select your FastPrint Server.
- (c) Select *Set to NetWare Print Server Mode*.
- (d) Enter the file server you are logged on to. This will be the master file server to the FastPrint.
- (e) Replace *Print Server name* with the name used in step 2(c).
- (f) Select *Execute Setup*.

##### 4.4.1.2. Print server mode in NetWare 4.x (bindery emulation)

This procedure configures the FastPrint Server as a NetWare Print Server under NetWare 4.x Bindery Emulation Mode.

#### 1. Quick Setup on a File Server

- (a) Login as ADMIN or a user with Admin rights.
- (b) Run **PCONSOLE** and press **[F4]** to switch to bindery mode.
- (c) Select *Quick Setup*
- (d) Enter the desired names in the following fields:
  - Print server**
  - New printer**
  - New print queue**
- (e) Press **[F10]** to save.
- (f) Repeat steps (b) to (e) for parallel ports 2 and 3.

**Note:** *If the desired Print Server name already exists, you must delete that object first.*

#### 2. Configure the FastPrint Server

- (a) Run the **PSCONFIG** program.
- (b) Select your FastPrint.
- (c) Select *Set to NetWare Print Server Mode*.
- (d) Select the file server you logged on in step 1(a) to be the master file server.



- (e) Replace the FastPrint name with the name set in step 1(d).
- (f) Select *Execute Setup*.

#### 4.4.1.3. Printer server mode in NetWare 4.X (NDS mode)

Follow the steps below to configure the FastPrint Server in NDS Print Server mode:

##### 1. Quick Setup on a NDS network

- (a) Login as ADMIN or a user with Admin rights.
- (b) Run **PCONSOLE**.
- (c) Select *Quick Setup*.
- (d) Enter your desired FastPrint name in the **Print Server** field. Record the context.
- (e) Enter the desired names in the following fields:
  - New printer**
  - New print queue**
  - Print Queue Volume**
- (f) Press **[F10]** to save.
- (g) Repeat steps (b) to (f) for parallel ports 2 and 3.
- (h) Exit **PCONSOLE**.
- (i) Enter the command **whoami** and record the Tree name.

##### 2. Configure the FastPrint Server

- (a) Run **PSCONFIG**.
- (b) Select your FastPrint Server. Replace the FastPrint name with the name used in step 1(d).
- (c) Select *Set to NetWare Print Server Mode*.
- (d) Enter data as follows:
  - NDS Tree name:* Tree name recorded in step 1(i).
  - Print Server NDS Context:* As recorded in step 1(d).
- (e) Select *Execute Setup*.

#### 4.4.2. Novell remote printer mode

##### 4.4.2.1. Remote printer assignments

The following assignments should be used in remote printer mode, where SCxxxxxx is the FastPrint Server name.

**Note:** The default FastPrint name begins with the letters "SC", followed by 6 hexadecimal characters. These characters may include the numbers "0" through "9" and the letters "A" through "F".

FastPrint Server	NetWare	
Port	Printer Type	Printer Name
Parallel 1	Remote Parallel, LPT1	SCxxxxxx
Parallel 2	Remote Parallel, LPT2	SCxxxxxx_P2
Parallel 3	Remote Parallel, LPT3	SCxxxxxx_P3

#### 4.4.2.2. Remote printer mode in NetWare 2.x, 3.x

Follow the steps listed below to configure the FastPrint to Novell Remote Printer mode.

##### 1. Create queues

Follow the steps below to create queues for the FastPrint.

**Note:** *If you are using existing queues, go to step 2.*

- (a) Run **PCONSOLE**.
- (b) Select *Print Queue Information*.
- (c) Press the **[INS]** key to add a new queue.
- (d) Type a queue name, and press **[ENTER]**.
- (e) Repeat steps (c) and (d) until you have the desired number of queues.

##### 2. Assign printers

- (a) Run PCONSOLE and select *Print Server Information*.
- (b) Select a NetWare Print Server.
- (c) Select *Print Server Configuration*.
- (d) Select *Printer Configuration*.
- (e) Select printers that show *Not Installed*.
- (f) Enter the correct data in the *Name* and *Type* Fields. (See *Remote printer assignments* on page 15 for more information about these fields).
- (g) Press **[ESC]**, then select *Yes*.
- (h) Repeat steps (b) to (g) until all printers are assigned.
- (i) Press **[ESC]**.

##### 3. Associate printers with print queues

- (a) Select *Queues Serviced by Printer*.
- (b) Select a printer to which you want to assign a print queue.
- (c) Press **[INS]**.
- (d) Select the queue that you want the printer to service, and press **[ENTER]**.
- (e) Repeat steps (a) to (d) until all printer and queue associations are configured.
- (f) Exit **PCONSOLE**.

##### 4. Configure the FastPrint Server

- (a) Run **PSCONFIG**.
- (b) Select your FastPrint Server.
- (c) Select *Set to NetWare Remote Printer Mode*.
- (d) For all print ports, enter the NetWare Print Server Name you selected in step 2(b).
- (e) Select *Execute Setup*.

#### 4.4.2.3. Remote printer mode in NetWare 4.X (NDS mode)

If you are in NDS mode, you can follow the steps listed below to configure the FastPrint as a Novell Remote Printer. These steps will help you to install a new FastPrint as a remote printer or to connect a new printer to the FastPrint.

## 1. Create queue objects

**Note:** If you are using existing queues, go to step 2.

- (a) Login to NetWare as ADMIN or a user with Admin rights.
- (b) Run the **PCONSOLE** program.
- (c) Select *Print queues*.
- (d) Press **[INS]** key to add a new queue.
- (e) Type a queue name, and press **[ENTER]**.
- (f) Repeat steps (c) to (e) until you have the desired number of queues.

## 2. Create printer objects

- (a) From the PCONSOLE Main Menu, select *Print servers*.
- (b) Select a NetWare Print Server.
- (c) Select *Printers*.
- (d) Press **[INS]** Key to insert a printer.
- (e) Enter the correct information in the *Name* Field. (Refer to *Remote printer assignments* on page 15.)
- (f) Select the printer.
- (g) In the *Type* field, select *parallel* for parallel port 1, 2, or 3.
- (h) Select *Configuration*
- (i) In the *Port* field, select *LPT1* for parallel port 1, *LP2* for parallel port 2 or *LPT3* for parallel port 3.
- (j) In *Location* field, set to *Manual Load*.
- (k) Press **[ESC]** to exit Configuration sub-menu.

## 3. Associate queue objects and print objects

Follow the instructions below to associate the printers with the queues to be serviced:

- (a) Select Print queues assigned.
- (b) Press **[INS]**.
- (c) Select the queue that you want the printer to service.
- (d) Press **[ESC]** twice.
- (e) Repeat steps 2(d) to 3(d) until all associations between queues and printers are completely configured.
- (f) Exit **PCONSOLE**.

## 4. Configure the FastPrint Server

- (a) Run PSCONFIG.
- (b) Select your FastPrint Server.
- (c) Select *Set to NetWare Remote Printer Mode*.
- (d) Enter the NetWare Print Server Name selected in step 2(b) for all print ports.
- (e) Select *Execute Setup*.

## 5. Unload and Reload Pserver

If the NetWare Pserver, to which the FastPrint Server has been installed, has been previously loaded, you must unload and reload it. Start at step (a).

If the NetWare Pserver has not been loaded, you must load it. In this case, go directly to step (d).

- (a) Go to the file server console where the NLM is running
- (b) Press Alt-ESC until you get to the Print Server NLM screen.
- (c) Press ESC to halt the Print Server NLM. Answer Yes.
- (d) After the NetWare NLM has been unloaded, enter the following command:

load pserver XXXX

XXXX is the NetWare Print Server selected in step 2 (b).

- (a) When the *Enter Print Server Name* menu appears, press INSERT until you get to *Contents of Current Context*. Select the context that holds the FastPrint Server. Select the FastPrint from the list and press ENTER.

## 4.5. Printing

You can use NetWare's standard utilities, **CAPTURE**, **NPRINT**, or **PCONSOLE**, to print a job to the FastPrint SCxxxxxx.

**Note:** *The default name begins with the letters "SC", followed by 6 hexadecimal characters. These characters may include the numbers "0" through "9" and the letters "A" through "F".*

**Note:** *If you are not familiar with the CAPTURE or NPRINT utilities, the on-line help is available by typing /? after the command.*  
**CAPTURE /? [ENTER]**

In the following examples, print queue P1 is serviced by FastPrint SCxxxxxx. To print, the file is sent to print queue P1.

### Example 1

If you want to use **NPRINT** to print the file *c:\config.sys* to SCxxxxxx, use the command:

NPRINT c:\config.sys /Q=P1 /NOTI /T=4 /NFF /NB

**Note:** *For NPRINT usage and options, see your NetWare documentation.*

### Example 2:

To use **CAPTURE** to print the file *c:\config.sys* to the FastPrint, use the commands:

CAPTURE /L=1 /Q=P1 /NOTI /NT /FF /NB

COPY c:\config.sys LPT1

In this example, output destined for LPT1 is redirected to print queue P1.

**Note:** *For CAPTURE usage and options, see your NetWare documentation.*

## 4.6. Configuration Settings

This section explains the configuration settings that can be altered in your FastPrint, and tells you how to use PSCONFIG to make these changes. (Of course, you may also use the programs described in *Chapter 8 - Management Tools* to make these changes.)

### 4.6.1. General FastPrint Server Settings

The following configuration changes can be made, regardless of which network protocol or operating systems are being used:

- ✓ Get FastPrint Server information.
- ✓ Reset FastPrint Server.
- ✓ Restore default configuration.
- ✓ Change the FastPrint's name.
- ✓ Change the FastPrint password.
- ✓ Disable/Enable network protocols.
- ✓ Get printer status (idle, off-line, printing).
- ✓ Logical printer setup (see page 21).
  - Define logical printer.
  - Set pre-print-job string.
  - Set post-print-job string.

### 4.6.2. Configuration using PSCONFIG

The following procedure lets you use PSCONFIG to change the FastPrint settings:

1. Run PSCONFIG. A list of FastPrint Servers will appear.
2. Select the FastPrint you want to configure and press **[ENTER]**.
3. Select *Change Configuration*. A list of category configurations will appear.
4. Select the category you want to edit and press **[ENTER]**.
5. Select the item you want to edit and press **[Enter]**. If you are prompted to enter a character string, enter a string.
6. Change any other items you wish. If you wish to select another category, the **[ESC]** key will return you to the main menu.
7. Select *Execute Change* and press **[ENTER]** to save the configuration changes to the FastPrint Server.

### 4.6.3. NetWare-specific settings

#### 4.6.3.1. Novell remote printer mode

<b>Device name</b>	Enter either the default name "SCxxxxxx" or the new name of the FastPrint Server.  <b>Note:</b> <i>The default FastPrint Server name begins with the letters "SC", followed by 6 hexadecimal characters, including "0" through "9" and "A" through "F".</i>
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	<p><i>You can find this name on the bar code label on the bottom of the FastPrint.</i></p> <p>If you rename your FastPrint, the new name must be no longer than 19 characters, and must not contain any spaces.</p>
<b>Novell printer server for P1, P2 &amp; P3</b>	Enter the name of the NetWare Print Server that will service the FastPrint's P1, P2 & P3 ports.
<b>Frame type</b>	Select the frame types used by your network. (Choose between Ethernet 802.2, Ethernet 802.3, Ethernet SNAP, and Ethernet II.)

#### 4.6.3.2. Novell Print Server mode

<b>Device name</b>	<p>Use the default name SCxxxxxx or the new name of the FastPrint Server.</p> <p><b>Note:</b> <i>The default name begins with the letters "SC", followed by 6 hexadecimal characters, including the numbers "0" through "9" and the letters "A" through "F".</i></p> <p>If you rename your FastPrint, the new name must be no longer than 19 characters, and must not contain any spaces.</p>
<b>NDS tree name</b>	NetWare 4.X NDS mode only. Enter the file server's NDS tree name (root name).
<b>FastPrint Server NDS context</b>	<p>NetWare 4.X NDS mode only. Enter the FastPrint Server NDS Context. The entry should contain the path to the context, but not the context itself. Each OU should be separated by a period.</p> <p><i>example: department.company</i></p>
<b>Master file server (bindery mode only)</b>	Enter the name of the FastPrint's master file server.
<b>Polling queue interval</b>	Defines how often the FastPrint Server will poll the queues to be serviced.
<b>Job notification by connection ID</b>	Set this to <i>Yes</i> if you want to receive a job notification at only the workstation where the print job originated. <i>No</i> means that a job notification will be received at all workstations that you have logged on.
<b>Frame type</b>	Select the frame types used by your network. (Choose between Ethernet 802.2, Ethernet 802.3, Ethernet SNAP, and Ethernet II.)
<b>NetWare password</b>	The password on the NetWare Print Server. The FastPrint Server needs this password to connect to NetWare.

#### 4.6.3.3. Service additional NetWare bindery file servers

If your FastPrint Server is configured as a NetWare Print Server, you can easily set it to service more than one bindery file server.

1. Login, with supervisory rights, to the other file servers that you want your FastPrint to service.
2. Create queues and a Print Server name for your FastPrint Server on each file server you want to service.
3. Login, with supervisory rights, to your FastPrint Server's master file server.
4. Run **PCONSOLE**.
5. Select *Print Server Information*, and then select your FastPrint Server in the Print Server list.
6. Select *Printer Server Configuration*, then select *File Server To Be Serviced*.
7. Add the names of the other file servers that will be serviced by your FastPrint.
8. Reset the FastPrint.

#### 4.6.3.4. Attach to more than one NetWare Print Server

Perform the following steps if you are running in NetWare Remote Printer mode and you want each port of the FastPrint Server to be attached to a different NetWare Print Server.

1. Use PCONSOLE to create and assign the required printers and queues as detailed in the *Remote Printer Mode* section.
2. Run PSCONFIG and select *Set to NetWare Remote Printer Mode*. Enter the correct NetWare Print Server names in the Print Server name fields, and then select *Execute Setup*.

#### 4.6.3.5. Logical printers

You can use logical printers to create a “virtual” printer. For example, if you want to create a landscape printer, you could define a logical printer with the following settings:

**Pre-string**                      Printer control codes to switch the printer to Landscape mode.

**Post-string**                     Printer control codes to restore the printer's default settings.

Another logical printer could be created to print Unix-format text files properly, by converting Unix LF characters (Line Feeds) to DOS LF/CR (Line Feed, Carriage Return) character pairs.

A FastPrint Server running in NetWare Print Server mode supports up to eight logical printers.

##### 4.6.3.5.1. Configuring NetWare

Use PCONSOLE to create new logical printers and to assign print queues to the printers.

**Note:** *When you create a logical printer, be sure to select a printer number greater than 7 from the Configured Printer listing.  
In NetWare, all printer numbers greater than 7 are logical printers. This*

*means that printer 8 corresponds to logical printer L1, printer 9 corresponds to logical printer L2, and so on, up to printer 15 which corresponds to logical printer L8.*

#### 4.6.3.5.2. Configuring the FastPrint Server

Perform the following steps to define the pre-string, post-string, and the physical output port of a logical printer:

1. Run **PSCONFIG**.
2. Select *Change Configuration*.
3. Select *Logical Printer Configuration* and set the following items for each logical port. (Logical printers are numbered from L1 to L8.)

<b>Physical port</b>	Select the physical port for this logical printer (P1 to P3).
<b>String before job</b>	The printer control string (in hex) to be sent to the printer before each print job.
<b>String after job</b>	The printer control string (in hex) to be sent to the printer after each print job.
<b>Convert LF to CR+LF</b>	If this is ON, LF (line feed) characters are changed to CR+LF (carriage return + line feed). If it is OFF, no conversion will be done.

**Note:** *The maximum size of a printer control string is 15 characters.*



# 5. TCP/IP

*This chapter will help you to configure and use the FastPrint Server in the TCP/IP environment.*

## 5.1. Software requirements

The FastPrint Server can work with most UNIX systems and Windows NT 3.5 or later. You will need the following software:

- TCP, IP, telnet, ftp (option - BOOTP, rarp)
- Either LPD (for NT and Unix) or C Compiler (for PSfilter under Unix).

## 5.2. FastPrint Server configuration

**Note:** *The FastPrint Server should be configured FIRST.*

You may use any of the following methods to configure your FastPrint:

### ◆ FPSAdmin

This management program requires Windows 95 or Windows NT. See *Chapter 8 - Management Tools* for details.

### ◆ WebAdmin

This management program runs on an NT Server and is accessed by a web browser. See *Chapter 8 - Management Tools* for details.

### ◆ FTP (File Transfer Protocol)

With FTP, you copy the configuration file from the FastPrint, edit it, and send it back. Further information on using FTP can be found on pages 36 to 37.

### 5.2.1. IP address configuration

In the TCP/IP environment, IP addresses are essential. You must enter the following IP addresses. (The entry in brackets shows the line number and token in the FastPrint's configuration file.)

<b>IP address</b> [4000 IP_ADDR]	The FastPrint's IP address. (See the next section.)
<b>Gateway address</b> [4001 GATEWAY]	If your network segment has a router, enter the router address here. If there is no router, leave the address as 0.0.0.0.
<b>Subnet mask</b> [4002 MASK]	If the gateway address above is 0.0.0.0, the subnet mask should also be left at 0.0.0.0. If you have a router, enter the subnet mask for the segment to which the FastPrint is attached.

### 5.2.2. FastPrint Server IP address

The FastPrint Server is normally assigned a static IP address. (You may use either FPSAdmin or WebAdmin to do this.)

You may also use FTP to assign an IP address. However, some host configuration will be necessary to allow connection to a FastPrint Server without an IP address. See *IP address configuration* on page 25 for details.

If you leave the FastPrint Server IP address at the default value of 0.0.0.0, its sequence for finding an address is as follows:

1. DHCP
2. BOOTP
3. RARP

See “Dynamic IP address Configuration” on page 26 for more details.

### 5.2.3. Other configuration settings

When assigning the IP addresses, you should also check the following configuration settings.

<b>Device name</b> (0001 BOX_NAME)	<p>The default name will be in the form SCxxxxxx (SC followed by 6 numbers).</p> <p><b>Note:</b>      <i>The default FastPrint name begins with the letters “SC”, followed by 6 hexadecimal characters. These characters may include the numbers “0” through “9” and the letters “A” through “F”.</i></p> <p><i>You can find this name on the bar code label on the bottom of the FastPrint.</i></p> <p>If you rename your FastPrint, the new name <b>must not</b> be longer than 19 characters, and must not include any spaces.</p>
<b>TCP session retry interval</b> (4010 TCP_INT)	<p>Indicates the length of time the FastPrint should wait before retrying a TCP/IP connection that has been lost.</p> <p>By default, this is set to two seconds. You may enter a value from 0 to 255 seconds.</p>
<b>TCP session retry count</b> (4011 TCP_CNT)	<p>Indicates the number of attempts at reconnection that will be made. After that, the TCP/IP session will be terminated.</p> <p>By default, this is set to 254. You may enter a value from 0 to 255.</p>

#### 5.2.4. Logical printers

The FastPrint Server supports 8 logical printers. The names (L1..L8) cannot be changed. Each logical printer has 4 settings as shown above. The line numbers in the FastPrint's CONFIG file are as follows:

Logical printer	Line numbers
L1	0100 to 0103
L2	0120 to 0123
L3	0140 to 0143
L4	0160 to 0163
L5	0180 to 0183
L6	0200 to 0203
L7	0220 to 0223
L8	0240 to 0243

##### 5.2.4.1. Logical printer setup

<b>Physical port</b> (0100 L1_PROUT)	FastPrint Port to which the printer is attached (P1 to P3).
<b>String before job</b> (0101 L1_PREST)	The printer control string (in hex) to be sent to the printer before each print job.
<b>String after job</b> (0102 L1_POSTR)	The printer control string (in hex) to be sent to the printer after each print job.
<b>Convert LF to CR+LF</b> (0103 L1_CHGLF)	If ON, LF (line feed) characters are changed to CR+LF (carriage return + line feed). If OFF, no conversion is done.

**Note:** The maximum size of a printer control string is 15 characters.

### 5.3. Unix host configuration

You must first give the FastPrint Server an IP address so that it will be a valid device on the LAN.

#### 5.3.1. Static IP address configuration

1. Determine the physical address of the FastPrint Server from the *default name* shown on a sticker on the base of the FastPrint. It will be in the form SCxyyyz (SC followed by 6 hex numbers). If its name is SCxyyyz, then the physical address is 00:c0:02:xx:yy:zz.
2. Login to the UNIX host as root.
3. Add the FastPrint to the /etc/hosts file by adding the following line to the file:

```
IP_Address NAME # comment
```

where:

*IP\_Address* is the IP address for the FastPrint Server. This **must match** the IP address stored in the FastPrint.

*NAME* is the FastPrint's name. This **must match** the name stored in the FastPrint.

*# comment*. Add the *Default Name* as a comment.

example:

```
192.10.2.54 PS_Rm203 #Default name SC123456
```

In the example above, SC123456 is assigned the IP address 192.10.2.54 and the name "PS\_Rm203".

4. Use the **arp** command to associate the physical address with the FastPrint Server's IP address:

```
arp -s NAME 00:c0:02:xx:yy:zz
```

where:

*NAME* is the name assigned to the FastPrint.

*00:c0:02:xx:yy:zz* is the physical address of the FastPrint, as determined from the default name.

example:

```
arp -s PS_Rm203 00:c0:02:12:34:56
```

5. Check the IP address using the **ping** command:

```
ping NAME
```

You should receive a response. If you get a *Timeout* message, the above procedure has failed.

6. If the FastPrint Server is not configured yet, you can now connect and configure it using FTP. (See "Example: Initial configuration" on page 37).

### 5.3.2. Dynamic IP address Configuration

If the FastPrint's IP address is left at 0.0.0.0, it will try to obtain a dynamic IP address by using the following methods in sequence: DHCP, BOOTP, RARP.

#### 5.3.2.1. Using DHCP

You may only use DHCP if you have DHCP management software which allows you to take advantage of this feature. Otherwise, the FastPrint's IP address will be unknown, and connection to it will be impossible. In this case, configure the FastPrint to use a static IP address. (See preceding section.)

#### 5.3.2.2. Using BOOTP

1. Determine the physical address of the FastPrint Server from the *default name* shown on a sticker on the base of the FastPrint. It will be in the form SCxyyyzz (SC followed by 6 hex numbers). If its name is SCxyyyzz, then the physical address is 00:c0:02:xx:yy:zz.
2. Login to the UNIX host as root.
3. Add the FastPrint to the /etc/hosts file by adding the following line to the file:

```
IP_Address NAME # comment
```

where:

*IP\_Address* is the IP address for the FastPrint Server. This **must match** the IP address stored in the FastPrint Server.

*NAME* is the FastPrint's name. This **must match** the name stored in the FastPrint.

*# comment*. Add the *Default Name* as a comment.

example:

```
192.10.2.54 PS_Rm203 #Default name SC123456
```

In the example above, SC123456 is assigned the IP address 192.10.2.54 and the name "PS\_Rm203".

4. Add the following entry to the Boot Table /etc/boottab

```
NAME:ht=ether:vm=rfc1024::ha=PA:ip=IP:sm=SM:gw=GW
```

where:

*NAME* is the FastPrint's name.

*PA* is the physical address of the FastPrint.

*IP* is the FastPrint's IP address.

*SM* is the subnet mask.

*GW* is the gateway IP address.

5. If it is not running, start the bootp daemon (the usual command is `bootpd`) and then reset the FastPrint. It should then acquire an IP address using bootp.
6. If the FastPrint Server is not configured yet, you can now configure it using FTP. (See page 37 for details.) Otherwise, check with the ping command:

```
ping NAME
```

You should receive a response. If you get a *Timeout* message, the above procedure has failed.

### 5.3.2.3. Using RARP

1. Determine the physical address of the FastPrint from the *default name* shown on a sticker on the base of the FastPrint. It will be in the form SCxxxyzz (SC followed by 6 hex numbers). If its name is SCxxxyzz, then the physical address is 00:c0:02:xx:yy:zz.
2. Login to the UNIX host as root.
3. Add the FastPrint to the /etc/hosts file by adding the following line to the file:

```
IP_Address NAME # comment
```

where:

*IP\_Address* is the IP address for the FastPrint. This **must match** the IP address stored in the FastPrint.

*NAME* is the FastPrint's name. This **must match** the name stored in the FastPrint.

*# comment*. Add the *Default Name* as a comment.

example:

```
192.10.2.54 PS_Rm203 #Default name SC123456
```

In the example above, SC123456 is assigned the IP address 192.10.2.54 and the name "PS\_Rm203".

4. If the rarp daemon is not running, start it with the command:

```
rarpd -a
```

5. Add a line to the Ethernet Address table /etc/ethers

`00:c0:02:xx:yy:zz NAME`

where:

`00:c0:02:xx:yy:zz` is the physical address of the FastPrint.

`NAME` is the name of the FastPrint.

6. Reset the FastPrint. When it reboots, it should acquire an IP address from rarp.
7. If the FastPrint is not configured yet, you can now configure it using FTP. (See page 37 for details.) Otherwise, check the address with the ping command:

`ping NAME`

You should receive a response. If you get a *Timeout* message, the above procedure has failed.

## 5.4. Printing configuration

There are four printing methods to choose from. All are explained in the following sections. Select whichever is the most convenient in your environment.

### ◆ LPD

LPD is a standard print method for most UNIX systems. This eliminates the need to install additional software on the host.

However, in most cases the LPD protocol sends out the data file before the control file. The FastPrint Server will print the data file immediately, ignoring any print options set in the control file. To solve this problem, use PSfilter instead.

### ◆ PSfilter

PSfilter is a proprietary print method provided with the FastPrint. This method provides many print options such as banner print, copies, and so on.

To use PSfilter, a C compiler must be installed on every UNIX host so that the PSfilter source code can be compiled into executable code and installed on the UNIX host.

### ◆ FTP (File Transfer Protocol)

FTP is also a standard print method in most UNIX systems, but it is **not** recommended except as a test and back-up method of printing.

LPD and PSfilter work well with a large number of users because they both employ print queue processes. FTP does not implement a print queue. If the printer is busy, the print command will fail.

### ◆ DSI (Direct Socket Interface)

DSI is a Unix-based method of providing a “direct” connection between a host computer and a printer. The host and the FastPrint Server establish a TCP connection, using a special socket number. All data sent over this connection is treated as print data, and sent transparently to a logical printer defined on the FastPrint Server.

### 5.4.1. LPD configuration

LPD is a built-in printing protocol for most UNIX systems, including BSD type UNIX. It is also supported in Windows NT 3.5 or later.

#### 5.4.1.1. LPD on IBM AIX 4.15

Before proceeding, make sure that the FastPrint Server has been assigned an IP address. To set up your AIX system for LPD printing, perform the following steps.

1. Add the FastPrint to **/etc/hosts.lpd**, using the name you assigned to the FastPrint.
2. Start the LPD daemon if it is not running, using the following command:

```
start src -s qdaemon
```

3. Start the system administration tool **smit** and select *Print Spooling*
4. Create the required number of queues (one for each logical printer) by selecting:

```
Add a Print Queue
Remote (Printer attached to Remote Host)
Standard Processing
```

5. Use the following information:

Field	Entry
Name of queue to add	Use a single-word queue name that indicates which printer is attached.
Hostname for remote server	FastPrint name as used in /etc/hosts.lpd.
Name of queue on remote server	Logical printer number (L1..L8) to service this queue.
Type of print spooler on remote server.	Use default value (AIX version xxx)

6. Ensure the logical printers are configured in the FastPrint. See page 24 for more information.
7. Print using the following command:

```
lp -d printer_queue file_name
```

where:

```
printer_queue is one of the entries used in Name of queue to add.
file_name is the file you wish to print.
```

#### 5.4.1.2. LPD on System V

Before beginning LPD Setup, make sure that an IP address has been assigned to the FastPrint Server. Keep the following points in mind:

- The **remote host name** is the name of the FastPrint Server.
- The **remote printer name** is the print queue name for the logical printer. Logical printers also need to be configured on the FastPrint Server itself. (See page 24).
- If your UNIX asks for the LPD type, be sure to identify the service type as BSD. The FastPrint's LPD protocol meets BSD system standards.

- In the sample commands shown, *printer\_name* is the name of the print queue serviced by the FastPrint Server, and *Spooler\_directory* is the name of the directory used to spool the print jobs.

Action	Sample command
Stop print services	/usr/lib/lpshut
Add a system printer	/usr/lib/lpadmin -p <i>printer_name</i> -v /dev/null
Restart the print services	/usr/lib/lpsched
Enable printing to the new printer device	enable <i>printer_name</i>
Start accepting jobs for the new printer device	accept <i>printer_name</i>
Create a spooling directory	mkdir /usr/spool/ <i>Spooler_directory</i>
Make spooling daemon the owner of this directory	chown daemon /usr/spool/ <i>Spooler_directory</i>
Create read/write permissions	chmod 775 /usr/spool/ <i>Spooler_directory</i>
Give permissions to LPD processes.	chgrp daemon /usr/spool/ <i>Spooler_directory</i>
Add remote printer(s)	(See following section).

#### 5.4.1.2.1. Adding remote printers

A remote printer is added by inserting the following line in the /etc/printcap file.

**Note:** *The entry is really one line, but can be entered as shown.  
Use a TAB character where shown.*

```
printer_name|Remote_Printer_Alias:\
[TAB] :lp=:\
[TAB] :rm=PS_NAME:\
[TAB] :rp=Logical_Printer_name:\
[TAB] :sd=Spooler_directory:\
[TAB] :mx#0:
```

where:

*printer\_name* is the Print Queue name used to store jobs for the corresponding logical printer.

*PS\_NAME* is the FastPrint Server name defined in /etc/hosts.

*Logical\_Printer\_name* is the logical printer name on the FastPrint (L1..L8).

*Spooler\_directory* is the directory you created in step 6.

example:

```
Marketing|RP1_SC123456:\
[TAB] :lp=:\
[TAB] :rm=PS_Rm203:\
[TAB] :rp=L1:\
[TAB] :sd=/usr/spool/Marketing:\
[TAB] :mx#0:
```



Repeat this process for each logical printer/print queue combination that you wish to create.

#### 5.4.1.3. LPD on BSD

Before continuing, ensure that an IP address has been assigned to the FastPrint. Remember the following:

- The **remote host name** is the name of the FastPrint.
- The **remote printer name** is the logical printer (L1..L8) on the FastPrint.
- If asked for the LPD type, enter the service type as BSD.
- In the sample commands shown, *printer\_name* is the Print Queue serviced by the logical printer on the FastPrint, and *Spooler\_dir* is the name of the directory used to spool the print jobs.

Action	Sample command
Create a spooling directory	<code>mkdir /usr/spool/Spooler_dir</code>
Set spooling daemon as owner of this directory.	<code>chown daemon /usr/spool/Spooler_dir</code>
Create read/write permissions.	<code>chmod 775 /usr/spool/Spooler_dir</code>
Give permissions to LPD processes.	<code>chgrp daemon /usr/spool/Spooler_dir</code>
Add remote printer(s)	See <i>Adding remote printers</i> on page 30.
Start lpc print mechanism	<code>lpc start printer_name</code>

#### 5.4.2. Printing using LPD

For LPD printing instructions, refer to your UNIX manual. The following example is for a BSD system:

```
lpr -P printer_name filename
```

where:

*printer\_name* is the name of the print queue defined on the Unix host.

*filename* is the name of the file you wish to print.

example:

```
lpr -P Marketing /etc/hosts
```

In the above example, the */etc/hosts* file is sent to the printer queue Marketing. It will then be sent to the logical printer associated with this queue.

#### 5.4.3. Printing using FTP

FTP printing lets you send print jobs to the printers directly. There is no spooling; therefore, if the printer is not ready, the print job will be terminated immediately. The advantage of FTP is that no host configuration is required.

To print using FTP, enter the following command lines:

```
#ftp Name
ftp>put FileName Ln
```

where:

*Name* is the name of the FastPrint Server.

*FileName* is the file you wish to print.

*n* is the number of the logical printer you wish to print to.

#### 5.4.4. Printing using DSI

Logical printers must be configured on the FastPrint Server, as explained on page 24.

**Note:** *Although the FastPrint supports 8 logical printers, DSI on the FastPrint supports only 3 logical printers.*

Socket numbers are defined as follows:

Logical printer no.	Socket no.
1	4010
2	4020
3	4030

#### 5.4.5. Printing using PSfilter

PSfilter is a proprietary printing system that provides many print options.

**Note:** *If you want to use PSfilter, a C compiler and Socket Library must exist on the host so that psfilter.c can be compiled to an executable file.*

##### 5.4.5.1. PSfilter Setup

The PSfilter program is shipped in source code as *psfilter.c*. Three methods are provided to set up the FastPrint Server for PSfilter printing.

- Quickset
- Interactive setup
- Manual setup

Quickset and Interactive setup execute the proprietary *install.sh* program which will compile *psfilter.c*. Using one of these methods is recommended. However, for IMB AIX, you must use the Manual setup.

##### 5.4.5.1.1. Setup instructions

Detailed instructions for installing and configuring PSfilter are provided in the following files. These files, and PSfilter.c, are stored on the CD-ROM in the following directories:

\driver\lpti\lpsource (text format)

\driver\lpti\tar (tar format)

Operating system	File
SCO UNIX System V Release 3	SCO.TXT
HP UXIX on HP workstation	HP.TXT
Sun 5.x on Sun SPARC workstation	SUN5.TXT

Sun 4.x on Sun SPARC workstation	SUN4.TXT
AT&T UNIX SV Release 4	SVR4.TXT
DEC/OSF1	DECOSF1.TXT
IBM AIX	AIX.TXT
UNIXWare	UNIXWARE.TXT

**Note:** *If your system is not listed above, do not attempt to use Psfilter.*

#### 5.4.5.2. Psfilter printing methods

Psfilter printing provides two ways to print jobs:

##### ◆ Redirect Printing

With Redirect printing, you print jobs using system print commands (e.g. lp). The print job is redirected though Psfilter to the FastPrint. Redirect printing is the recommended print method because jobs are spooled.

##### ◆ Direct Printing

Here, Psfilter commands are used to print your job without going through the host print queue. This method is recommended only for test purposes.

## 5.5. Windows NT host configuration

This section covers the configuration of a Windows NT host. The FastPrint should be configured first. For Windows NT configuration in a Peer-to-Peer environment, see *Chapter 7 - Windows Peer-to-Peer*.

### 5.5.1. IP address configuration

To have the FastPrint Server recognized as a valid device, you must first configure it. Once this has been done, then follow this procedure.

1. Add an entry for the FastPrint to the hosts file:

`\SYSTEM32\DRIVERS\ETC\HOSTS`

The entry consists of the following line:

`xxx.xxx.xxx.xxx Name`

where:

`xxx.xxx.xxx.xxx` is the IP address you assigned to the FastPrint.

`Name` is the FastPrint's name. If you have not changed the name, use the default name shown on a sticker on the base of the FastPrint.

2. Reboot to have these changes take effect.
3. Have Windows NT automatically add an entry to the ARP table by entering the following commands:

```
ping Name
arp -a
```

**Note:** *If the FastPrint doesn't respond to the ping, there is something wrong with the IP addressing.*

## 5.5.2. Preparing for TCP/IP Printing

If you want to create a TCP/IP remote printer, Microsoft TCP/IP printing support must be installed. The procedure is as follows.

### 5.5.2.1. Windows NT 3.51

1. Start the *Network* option in Control Panel. When the Network Settings dialog box appears, click *Add Software* to display the *Add Network Software* dialog box.
2. Select *TCP/IP Protocol And Related Components* in the Network Software list box, and then click the *Continue* button.
3. In the *Windows NT TCP/IP Installation Options* dialog box, check the *TCP/IP Network Printing Support* option.
4. Click the *OK* button. Windows NT Setup will display a message asking for the full path to the Windows NT distribution files. Provide the appropriate location and click the *Continue* button. All necessary files will be copied to your hard disk.
5. If you did not check the *Enable Automatic DHCP Configuration* option in the *Windows NT TCP/IP Installation Options* dialog box, you must complete all the required TCP/IP configuration procedures manually.
6. After you finish configuring TCP/IP, the *Network Settings* dialog box will reappear, click the *Close* button and then restart your computer for the changes to take effect.

### 5.5.2.2. Windows NT 4.0

1. Go to Start→Settings→Control Panel→Network.
2. Click the *Service* option and ensure that **Simple TCP/IP Service** and **Microsoft TCP/IP Printing** are enabled. If they are not enabled, select the *Add* option and enable them as usual.
3. If you added services in step 2, reboot the computer for the changes to take effect.

## 5.5.3. Adding a TCP/IP remote printer

### 5.5.3.1. Windows 3.51

1. From the *Printer* menu in *Print Manager*, choose *Create Printer*. Enter the following information:

<b>Printer name</b>	Enter a name (up to 32 characters). This name appears in the title bar of the printer window.
<b>Driver</b>	Select the appropriate driver for the attached printer.
<b>Description</b>	Enter a printer description for other network users to reference.
<b>Print to</b>	Select <i>Other</i> .

2. A *Print Destinations* dialog box will appear after selecting *Other*. In the *Available Print Monitor* list, select *LPR Port*, then *OK*. Enter the following data in the *Add LPR compatible printer* window:

<b>Name or address of host providing LPD</b>	The FastPrint's IP address.
<b>Name of printer on that machine</b>	The appropriate logical printer number (e.g. L1)

3. When the *Create Printer* dialog box reappears, check the *Share This Printer On The Network* option.
4. In the *Share Name* box, Printer Manager creates an MS-DOS compatible resource name, which you can change if you wish. In the *Location* box, you can enter information concerning the printer location.  
Network users will see this information when browsing to find this printer.
5. Complete any other configuration information in the *Create Printer* dialog box.

#### 5.5.3.2. Windows NT 4.0

1. Go to Start→Settings→Printer and invoke the *Add Printer* wizard.
2. When prompted with *This printer will be managed by*, select **My Computer** and click Next.
3. Select **Add Port...**, then select **LPR Port** and click **New Port**.
4. In the *Name of Address of server providing LPD:* dialog box, enter the FastPrint's IP address.
5. In the *Name of printer or print queue on that server* dialog box, enter the appropriate logical printer number (L1..L8) as previously configured on the FastPrint Server.
6. Click *OK*. When returned to the *Printer Ports* window, simply elect *Close* and then install your printer driver as usual.
7. When prompted whether or not the printer will be shared, select the **Sharing** radio button
8. In the *Shared* dialog box, enter the shared printer name. The shared name is how other users will see this printer.

#### 5.5.4. Printing with Windows NT

##### 5.5.4.1. Windows applications

The FastPrint's printers will appear as network printers to users on the LAN. To print a file from an application, select the remote printer as the destination, and print the file as usual.

##### 5.5.4.2. Command line

To print a file from the command prompt, type:

```
lpr -S NT_Host -P printer_name file_name
```

where:

*NT\_Host* is the name of the NT host on which the remote printer is configured.

*printer\_name* is the name assigned to the remote printer.

*file\_name* is the name of the file you wish to print.

To check the print status, type:

```
lpq -S NT_Host -P printer_name
```

## 6. TCP/IP Features

*This chapter describes some features of the FastPrint Server that are only available in the TCP/IP environment.*

### 6.1. FTP

FTP (File Transfer Protocol) allows a user to log-on to a remote host and manipulate files on the host. The FastPrint Server can act as an FTP host, with the following limitations:

- Only one FTP user can connect to the FastPrint Server.
- Only “command line” FTP programs can be used. FTP programs which attempt to “browse” the file system are **not** supported.

#### 6.1.1. Using FTP

1. Start your FTP client from the command prompt (GUI interface FTP clients are **not** supported) and connect to the FastPrint using its IP address.

e.g. `ftp 203.70.212.155`

**Note:** *If your system has been configured as described in Unix host configuration on page 25, you can connect using the FastPrint Server’s name, rather than the IP address.*

2. The FastPrint Server will respond with “Print Server Ready” and prompt for “User”. Enter the FastPrint’s name. If you have not previously assigned a name, you must use the default name shown on the sticker on the base of the FastPrint Server.
3. You will now be prompted for the device password. If no password has been assigned, just press **ENTER** to continue.

##### 6.1.1.1. Files

The following files will appear on the FastPrint when it is acting as an FTP host.

Filename	Purpose	Mode
CONFIG	Configuration file	Read/Write (get, put)
DEFAULTC	Reset FastPrint to default configuration	Read (get)
PSINF	FastPrint information	Read (get)
PASSRESET	Clear password	Read (get)
RESET	Reset FastPrint	Read (get)
SETIP	Save current IP address	Read (get)

##### 6.1.1.2. Commands

Only the following commands are implemented. Commands are usually case sensitive. Where the command requires a parameter, the parameter is shown in *italics*.

◆ **dir**

List files (as shown in the previous table).

◆ **get FILENAME**

Retrieve a file. The only files that can be retrieved are CONFIG and PSINF. Using GET with the other “files” will activate a command, as follows:

get DEFAULTTC	Set the FastPrint back to its default configuration.
get RESET	Reset the FastPrint Server. This also terminates the current connection.
get PASSRESET	Clear password (no password).
get SETIP	Set the current IP address as a static IP address.

**Warning!** *Do not use the SETIP command if the FastPrint has an IP address assigned by a DHCP server. This will cause an Address conflict.*

◆ **put CONFIG**

Copy the file CONFIG to the FastPrint, overwriting the existing CONFIG file. Details of the format of CONFIG files are contained in *Appendix B - Configuration File Format*.

**Note:** *After using the put CONFIG command to write a new configuration file to the FastPrint, you should issue a get RESET command. The red LED should then go on while the FastPrint Server is resetting. When the red LED goes OFF and the green LED starts flashing, the FastPrint is ready. A RESET will terminate the current connection.*

◆ **put PASSWORD**

Copy the file PASSWORD to the FastPrint Server, giving it a new password. Passwords can be up to 19 bytes in length.

◆ **put filename Ln**

Copy the file *filename* to the printer connected to logical port *n*, where *n* is a logical port number. This will print the file.

◆ **quit**

Terminate the current FTP session.

◆ **Other FTP commands**

The other FTP commands are not implemented, and will usually return the error message *Invalid command*.

## 6.1.1.3. Example: Initial configuration

1. Connect to the FastPrint Server.

```
ftp NAME
```

**Note:** *You can only connect using a name instead of an IP address if your system has been configured as described on page 24.*

2. You will be prompted for *User*. Enter the default name (on the base of the FastPrint). When prompted for the password, press ENTER.

3. Copy the configuration file **CONFIG**, to your system, then quit.

```
ftp>get CONFIG
ftp>quit
```

4. Edit the CONFIG file to set parameters in the following four lines in the file.

```
0001 BOX_NAME:Name
4000 IP_ADDR:x.x.x.x
4001 GATEWAY:y.y.y.y
4002 MASK:z.z.z.z
```

where:

*New\_Name* is the FastPrint Server's name.

*x.x.x.x* is the IP address assigned to the FastPrint.

*y.y.y.y* is the IP address of your router.

*z.z.z.z* is the network mask, if assigned.

5. Copy the CONFIG file back to the FastPrint, reset, and quit:

```
ftp NAME
ftp>put CONFIG
ftp>get RESET
ftp>quit
```

## 6.2. Internet printing

The InterNet Printing System allows users to print data to your printer across the Internet. Users send the Internet Print Server an e-mail, with the print job sent as an attachment to the e-mail. The FastPrint Server will retrieve the e-mail and print it.

### 6.2.1. System requirements

#### ◆ Mail server

- **Accessibility.** The Mail Server must be accessible by the intended clients or users. Normally, this means a permanent connection to the Internet.
- **Protocols.** The Mail Server must support the POP3 and SMTP protocols. The Internet Printing System uses these protocols and the most common e-mail formatting standards:

MIME (Multipurpose Internet Mail Extensions)

Base64 Encoding (for mail attachments)

#### ◆ Internet Print Server

- **TCP/IP protocol.** The LAN must use the TCP/IP protocol.
- **Mail server access.** The FastPrint Server must be able to access the Mail Server using a single IP address.
- **Mail account.** The FastPrint must have a Mail Account. Users print by sending an e-mail to this mail account.

#### ◆ User (client) requirements

- **Internet connection.** Either through a LAN, or dial-up.
- **E-mail address.** This is used to notify the user that their print job has been done, or if there are any problems.



- **Printer driver.** Users must have a printer driver which matches the printer connected to the remote Internet Print Server.
- **Print capture software.** To print more than plain text, users require InterNet Printing Port software to capture the print job and convert it into an e-mail attachment.

The InterNet Printing Port software is available for the following operating systems:

Microsoft Windows 95

Microsoft Windows NT 3.51 or later.

### 6.2.2. Internet mail printing configuration

The FPSAdmin program (see *Chapter 8 - Management Tools*) can be used to set the following entries on the TCP/IP screen. FTP can also be used; the number in brackets shows the line number in the FastPrint's CONFIG file.

<b>Mail server IP address</b> (4100 MAIL_IP)	The IP address of the e-mail server used by the FastPrint Server.
<b>Mail account</b> (4101 MAIL_ACC)	The name of the e-mail account used by the FastPrint Server.
<b>Mail account password</b> (4102 MAIL_PAS)	Enter the password for the above mail account here.
<b>Check mail interval</b> (4103 MAIL_INT)	Sets how often to check for mail. Values range from 0 to 65,535 minutes, with 0 meaning a continuous connection. By default, this is set to 1.
<b>Print banner</b> (4104 MAIL_BAN)	If YES (default), a banner page is printed to identify the owner of the print job.
<b>Redirect mail account</b> (4105 MAIL_RED)	Jobs that can't be printed will be sent to this account. If blank, unprintable jobs will be discarded.
<b>Default printer number</b> (4106 MAIL_POR)	Printer number for all internet print jobs. Only one port can be selected. Users on the LAN can also use this port.
<b>Print every e-mail</b> (4107 MAIL_EVR)	If ON, then all e-mail received is printed. Otherwise, only e-mail from the InterNet Printing Port will be printed.
<b>Activate response mail</b> (4108 MAIL_NOT)	If YES, all print jobs receive an e-mail response. If NO, only users who set this option in their InterNet Printing Port software receive an e-mail.
<b>Printer model ID string</b> (4109 MAIL_MOD)	This text field identifies the printer used for internet printing. This value is sent to remote users upon request.

### 6.2.3. User software

The software provided for remote users (InterNet Printing Port) should be installed by everyone intending to use Internet printing. Otherwise, remote users can print correctly only if:

- They send an e-mail directly to the FastPrint Server Mail Account, using their normal e-mail application.
- The e-mail contains plain text only.
- The Internet Print Server is configured with *Print every e-mail ON*.

Installation of the InterNet Printing Port software will create a new printer port. After attaching the correct printer to this port, users can print to the internet printer using any Windows application.

#### 6.2.3.1. Installation

1. Run the InterNet Printing Port installation program SETUP.EXE.
2. Default values for the installation are:

<b>Directory</b>	C:\LanEdge\FastPrint Server\Internet
<b>Start Menu folder</b>	InterNet Printing Port Driver

3. You will then see the *Configure Port* screen, as shown in the following screenshot.

**InterNet Printing Port Driver Configuration (ver 1.0)**

Port Name :

Remote Printer

E-mail address

Your E-mail information

Mail Server Name or IP Address

Your Internet E-mail address (e.g. username@company.com)

Retry Interval:  Sec.

☒ Reply Notification E-mail

OK Cancel Help

**Figure 2 InterNet Printer Port**

4. The following data must be provided.

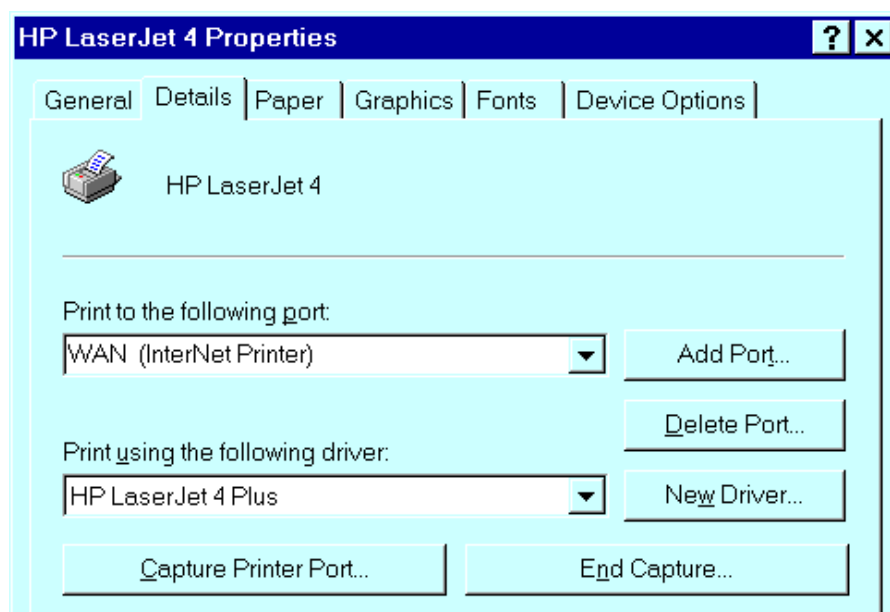
<b>Port name</b>	Enter a descriptive name (e.g., "WAN") for the new printer port.
<b>Remote printer E-mail address</b>	The e-mail address for the internet printer. Your print jobs will be sent to this e-mail address.
<b>Mail server name or IP address</b>	This is the name or IP address of your mail server. If you are on a LAN, ask the LAN administrator. If using a dial-up connection, use the data provided by your ISP.
<b>Your internet e-mail address</b>	The address that people use to send you e-mail.
<b>Retry interval (seconds)</b>	If unable to connect to the e-mail server, another connection attempt will be made after this time period (1 to 255 seconds; 30 is usually OK).
<b>Reply notification mail</b>	Check to receive an e-mail when your print job has been processed.

5. On completion, a new printer port will have been created.

#### 6.2.3.2. Using the new port

The Windows Control Panel is used to connect the correct printer to the InterNet Printing Port. In Windows 95/NT, the procedure is:

1. Select the printer that matches the remote printer. Next, choose *Properties*, as shown in the example below.



**Figure 3 InterNet Printer Properties**

2. Select the new port (WAN (InterNet Printer) in the example) as the port for this printer.
  - If you do not have the correct printer driver, or you wish to create another printer using an existing driver, use the Windows *Add Printer* facility.
  - Using the Windows *Port Settings* or *Configure Port* facility will reveal the same *Configure Port* screen shown in *Figure 2 InterNet Printer Port* on page 40.
  - If you wish to print to multiple Internet Printers, use the Windows *Add Port* facility to add a new InterNet Printer port. Ensure that the correct data is entered in each port, and that each port has a unique name.

#### 6.2.3.3. Checking the printer driver

You can use the InterNet Printing Port to send an e-mail to the Internet Printer. This lets you make sure that the correct printer driver for the remote printer is installed on your system.

1. Connect your default printer to the InterNet Printing Port.
2. Check that “Reply Notification Mail” in the InterNet Printing Port is ON.
3. Use Notepad or any other text editor to create a short message (such as “This is a test print”).
4. Follow the steps in the next section to print the document to the Internet Printer.

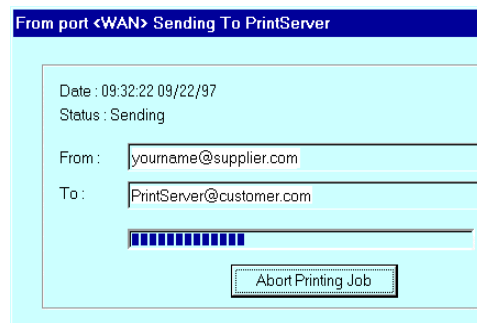
You will receive a reply e-mail containing the “Printer ID” which will identify the printer attached to the FastPrint. If this does not match the printer driver you are using, install the correct printer driver.

#### 6.2.4. Printing

1. Create or open the document you wish to print.
2. Select the Printer connected to the InterNet Printing Port.
3. If you do not have a permanent Internet connection, establish a connection now.

**Note:** *The InterNet Printing Port will **not** establish a dial-up connection. However, it will send the e-mail the next time you are connected.*

4. Print the document.
5. The InterNet Printing Port will generate an e-mail and send it to the remote printer. The document will be encoded and sent as an attachment to the e-mail. You will see a progress screen similar to the example below:



**Figure 4 InterNet Printing Progress**

6. Close the Internet connection if you opened it in step 3.
7. If the “Notify after print job” option is set, you will receive an e-mail when your job is printed.

### 6.2.5. Canceling a print job

Users cannot cancel a print job once it has been sent. However, print jobs can be canceled at the FastPrint Server.

In FPSAdmin (see *Chapter 8 - Management Tools*), the *Control - Abort Mail Print Job* menu option can be used to cancel a print job which has already started printing.

## 6.3. SNMP management

The FastPrint’s SNMP support allows network supervisors to monitor and control the FastPrint Server using network management platforms such as HP OpenView, IBM SystemView, etc. This is accomplished through the SNMP **agent** and the SNMP **MIB**.

The **agent** (device software) responds to standard SNMP commands and reports device configuration and conditions. When a change in condition occurs, the SNMP agent will send a message (a **Trap**) to the associated management station.

The FastPrint’s **SNMP MIB** is a collection of objects that are monitored and controlled using SNMP’s *get* and *set* commands. The MIB file is in the MIB folder on the FastPrint CD-ROM. You must import the MIB3P.MIB file into your SNMP management program.

### 6.3.1. Preparing the FastPrint Server for SNMP

Before attempting to manage the FastPrint using a SNMP Management station, the following settings should be assigned to it, in addition to the IP addresses covered in *IP address configuration* on page 23. You may do this with either FTP, FPSAdmin, or WebAdmin.

The number and token in brackets shows the line number in the FastPrint CONFIG file.

### 6.3.2. SNMP settings

<b>SysContact</b> (6000 CONTACT)	Name of the contact person.
<b>SysLocation</b> (6001 LOCATION)	Location of the contact person.
<b>Management station IP address(es)</b> (6011 M1_IP) (6021 M2_IP) (6031 M3_IP) (6041 M4_IP)	Up to 4 management stations can be entered.

<b>Trap receiving IP address(es)</b> (6111 T1_IP) (6121 T2_IP) (6131 T3_IP) (6141 T4_IP)	Up to 4 trap receiving stations can be entered.
--	---

#### 6.3.2.1. Management station settings

The following fields are available for each management station.

<b>Access permission</b> (6012 M1_ACCP) 6022 M2, 6032 M3, 6042 M4	Choose from Read Only, Read/Write or Not Accessible.
<b>Community string</b> (6013 M1_CSR) 6023 M2, 6033 M3, 6043 M4	If this is left blank, management by this station will be disabled.

#### 6.3.2.2. Trap receiving station settings

For each trap receiving station, the following fields are available.

<b>Community string</b> (6113 T1_CSTR) 6123 T2, 6133 T3, 6143 T4	If this is left blank, management by this station will be disabled.
<b>Trap enable</b> (6114 T1_ENAB) 6124 T2, 6134 T3, 6144 T4	Use this option to Enable/Disable trap receiving by this station.
<b>Trap severity</b> (6112 T1_S) 6122 T2, 6132 T3, 6142 T4	All traps are level 1.

#### 6.3.2.3. FastPrint Server MIB

The FastPrint Server MIB contains 96 objects that have been divided into 13 distinct groups, including one trap, according to their functions. The following list shows the MIB groups as they are seen in the MIB:

PSSystemConfig	PSStatus
PSLogicalPrinterConfig	PSIpxStatistics
PSNetwareConfig	PSAppletalkStatistics
PSTcpipConfig	PSTcpipStatistics
PSAppletalkConfig	PSControlConfig
PSNetbeuiConfig	Traps

*Appendix C - SNMP MIB* contains a complete listing of all MIB objects.

The FastPrint Server MIB must be installed on each management station, using the *Import-Compile* commands of your SNMP management program. Check your management program for details on this procedure.

# 7. Windows Peer-to-Peer

*This chapter will help you use the FastPrint Server in a Windows Peer-to-Peer Networking environment.*

## 7.1. Software requirements

### ◆ Operating systems

Windows 95, Windows NT 4.0, Windows NT 3.51, or Windows for Workgroups.

### ◆ LAN protocols

For Windows 95 or NT, either TCP/IP or NetBEUI protocols can be used. In Windows for Workgroups, only the NetBEUI protocol is available.

## 7.2. Configuration requirements

The following steps must be carried out.

- Software installation
- FastPrint Server configuration
- Software configuration

## 7.3. Software installation

Software installation must be carried out on every workstation that will use the FastPrint's printers.

### 7.3.1. Windows 95 / Windows NT

1. Run the **SETUP** program in the \Driver\ptp\_95nt folder on the CD-ROM.
2. At the *Select Components* window, select either NetBEUI or TCP/IP.
3. If you select TCP/IP, you will see the *Select Components* screen.

The Device Driver must be installed on all workstations.

4. Complete the installation as normal. Reboot your system when Setup is complete.

Setup will do the following:

- Create Readme and UnInstall icons.
- Add the prtserve.dll driver to the Windows\System directory (Win 95) or Windows\System32 directory (Windows NT).
- Add the Uninstall program to the Windows directory.
- Add Uninstall information files and the Readme file to the installation directory.

### 7.3.2. Windows for Workgroups

The following procedure will install the **Pserver** program. This program is required on every Windows for Workgroups system requiring access to the FastPrint's printers.

1. Run the **Setup** program in the Driver\Ptp\_wfw directory on the CD-ROM.
2. Follow the on-screen instructions to complete the installation. It is not necessary to reboot your system.
3. The Setup program will:
  - Copy all program files to the installation directory.
  - Copy Uninstall information files and UNINST16.EXE to the installation directory.
  - Create a program group.

## 7.4. FastPrint Server configuration

### 7.4.1. NetBEUI

If you are using the NetBEUI protocol, no device configuration is necessary. Simply install and configure the software.

### 7.4.2. TCP/IP

The FastPrint Server must be configured with the following information prior to software configuration.

Setting	Recommended value
Device name	The default FastPrint name can be found on the bar code label on the bottom of the FastPrint. It begins with the letters "SC", followed by 6 hexadecimal characters. These characters may include the numbers "0" through "9" and the letters "A" through "F".  If you rename your FastPrint, the new name <b>must not</b> be longer than 19 characters, and must not include any spaces.
Device IP address	192.168.0.1 (if not already assigned)
Gateway IP address	0.0.0.0
Subnet mask	0.0.0.0

These values are appropriate in the Peer-to Peer environment. For more complicated situations, refer to *Chapter 5 - TCP/IP*. Ensure that the IP address assigned to the FastPrint is not already in use.

Use FPSAdmin (see Chapter 8) to configure the FastPrint Server.



## 7.5. Software configuration

### 7.5.1. Configuration settings

During the software configuration process you will have to provide the following configuration information.

<b>IP address</b> (TCP/IP only)	Enter the IP address that was assigned to the FastPrint Server
<b>Device name</b> (NetBEUI only)	Click <i>Browse</i> and select the correct FastPrint. The name should not be changed; it is only visible when configuring the FastPrint.
<b>Select device port</b>	Select the FastPrint port that the printer is connected to (e.g. Parallel port 1).
<b>Port name</b>	Each port must have a unique name (8 alpha-numeric characters). The port name will be shown in the Printer's properties. Select a name which describes the port used (e.g. Par_1)
<b>Enable banner</b>	Select this option to enable a banner page. The Banner page contains the value in the <b>User Name</b> field.
<b>PostScript</b>	If you are using a PostScript printer and the banner page is enabled, you must enable this option. Failure to enable this option will cause errors in the print job.
<b>User name</b>	The user or work group name to be printed on the banner page.
<b>Retry interval</b>	Sets how often Windows will poll the FastPrint Server to establish a connection when the printer is busy. Values range from 40-110 seconds.

### 7.5.2. Windows 95/NT 4.0

This procedure must be carried out on every workstation requiring access to the FastPrint's printers. The FastPrint Server driver must be installed first.

Follow the same process for Windows 95 and Windows NT 4.0. The sample screens are from Windows 95; Windows NT 4.0 screens will be slightly different.

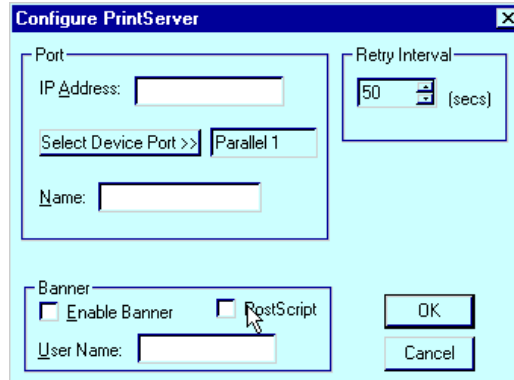
Before proceeding, check the following:

- The FastPrint Server is ON and configured (if using TCP/IP).
- One or more printer(s) are connected to the FastPrint, and on-line.
- The LAN is operational and using the appropriate protocol (either TCP/IP or NetBEUI).

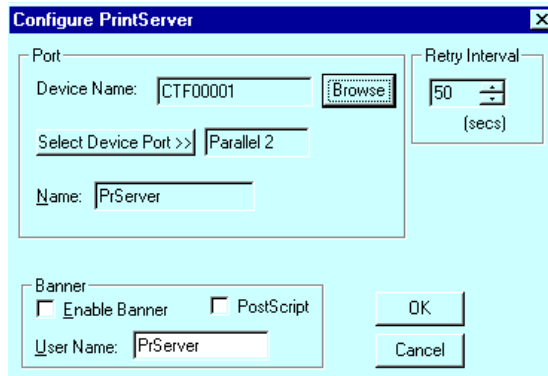
#### 7.5.2.1. First port configuration

1. Go to Start→Settings→Printers. Invoke the *Add Printer Wizard*.
2. Select the **Local printer** (or **My Computer** on NT) option.

3. Choose the Printer Model on the FastPrint Server's first port.
4. Select **PrintServer** as the port in the *Select Port* screen.
5. Select the **Configure Port** button. The following *Configure FastPrint Server* screens show both the TCP/IP and NetBEUI windows.



**Figure 5 TCP/IP Configuration (Win95 PtP)**



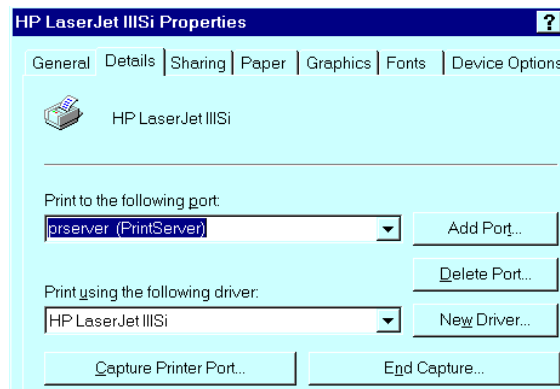
**Figure 6 - NetBEUI Configuration (Win95 PtP)**

6. Enter the configuration information as detailed in *Software configuration* on page 47.
7. Follow the on-screen instructions to finish adding a printer as you normally would.

#### 7.5.2.2. Configuring additional ports

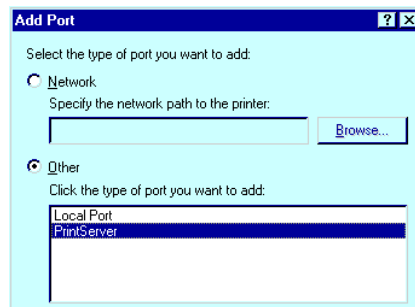
To add additional ports and printers, follow the steps below.

1. Go to the Printers folder and click on the printer just added. Then select **File**→**Properties**. The *Properties* screen will appear.
2. Select the **Details** tab and the following screen will appear:



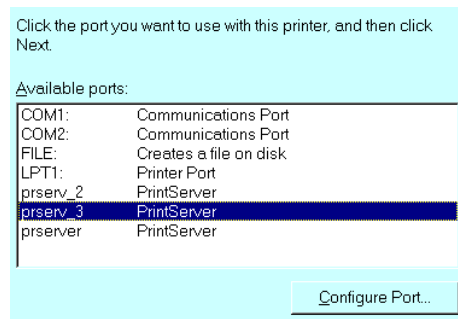
**Figure 7 Printer Details (Win95 PtP)**

3. Select **Add Port** and the following **Add Port** screen will appear:



**Figure 8 Add Port (Win95 PtP)**

4. Select **Other** as the type of port you want to add and select **PrintServer** from the port list, as shown above.
5. Then click **OK** and the **Configure PrintServer** window will appear.
6. Enter the configuration information as described in *Software configuration* on page 47. Ensure that you select a different FastPrint port each time, and assign a unique name to that port (e.g. pserv\_2 for parallel port 2).
7. Repeat steps 3, 4, and 5 until all FastPrint ports have been added.
8. Install the correct printer for each port. When prompted with the following screen, be sure that you select the port to which the printer is connected.



**Figure 9 Select Port (Win95 PtP)**

Configuration is now complete. You can now print using the printers attached to the FastPrint Server.

### 7.5.3. Windows NT 3.51

This procedure must be carried out on every workstation requiring access to the FastPrint's printers. The FastPrint driver must be installed first.

Before proceeding, check the following:

- The FastPrint Server is ON and configured (if using TCP/IP).
- One or more printer(s) are connected to the FastPrint, and on-line.
- The LAN is operational and using the appropriate protocol (either TCP/IP or NetBEUI).

#### 7.5.3.1. First port configuration

1. Go to Printer Manager. Select Printer→Create Printer.
2. Select the appropriate printer driver for the printer connected to the FastPrint's first port.
3. In the *Print to* dialogue box, select **PrintServer**.
4. Click on *Settings*. The *Configure FastPrint Server* window will appear. It will look like one of the screens below.

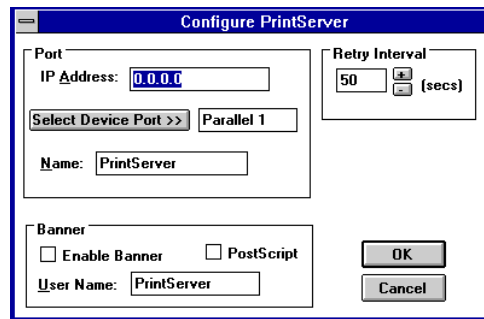


Figure 10 TCP/IP Configuration (NT 3.51 PtP)

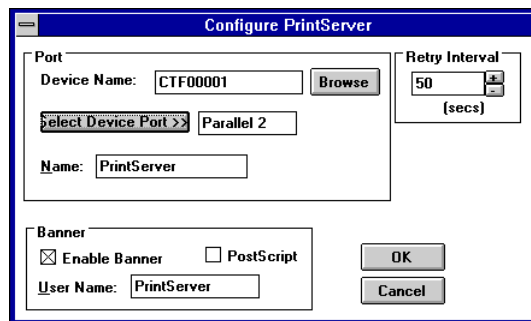


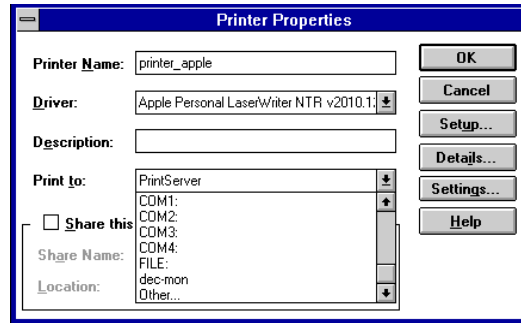
Figure 11 NetBEUI Configuration (NT 3.51 PtP)

5. Enter the configuration information as described in *Software configuration* on page 47.
6. When finished, click *OK* and then follow the on-screen instructions to finish adding a printer as you normally would.

### 7.5.3.2. Configuring additional ports

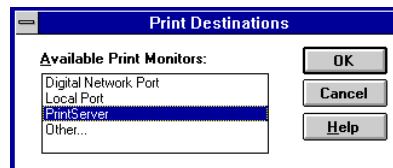
Next, you must add additional ports and printers. Follow the steps below.

1. Select the newly added printer using *Printer Manager*. Then go to the Printer menu and select *Properties*. The following *Printer Properties* screen will appear.



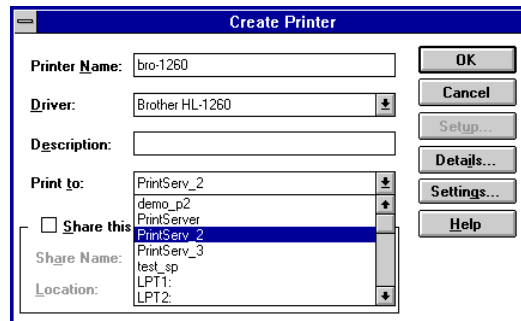
**Figure 12 Printer Properties (NT 3.51 PtP)**

2. In the Print to dialog box, select **Other...** and click OK. The *Print Destinations* screen will appear:



**Figure 13 Print Destinations (NT 3.51 PtP)**

3. Select **PrintServer** and click **OK**. The *Configure PrintServer* window shown previously will appear.
4. Enter the configuration information as described in *Software configuration* on page 47. Ensure that you select a different FastPrint Server port each time, and assign a unique name to that port (e.g. pserv\_2, pserv\_3).
5. Repeat steps 2 to 4 until all ports have been added.
6. Install the correct printer for each port. When prompted with the following *Create Printer* screen, ensure that the appropriate **Print to** option is selected for each printer.



**Figure 14 Create Printer (NT 3.51 PtP)**

#### 7.5.4. Windows for Workgroups

The Setup program will install the Pserver utility, which is used to configure and manage the FastPrint, printer and print jobs. It must be installed on all PCs intending to print using the FastPrint. Pserver will transfer the print job through the network to the FastPrint Server and then to the printer. The process is as follows:

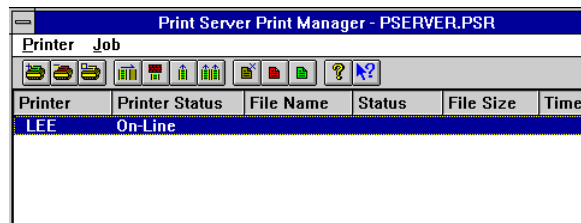
- A print queue is created for each port during configuration.
- When a user prints, the job is sent to Windows Print Manager.
- When Print Manager is finished spooling the print file, Pserver fetches the print job and stores it in the appropriate queue, using a name generated by Pserver.
- Pserver sends the print job to the correct FastPrint printer when the printer is free.

Before printing, both Pserver and Window Control Panel must be configured.

##### 7.5.4.1. Pserver main screen

Pserver must be loaded prior to printing via the FastPrint. Therefore, it is recommended that you add Pserver to the Windows Start Up group.

When started, the Pserver Status window will appear, and will list all connected printers, and any print jobs in each printer's queue. An example screen is shown below.



**Figure 15 Pserver Main Screen**

##### 7.5.4.2. Pserver icons and commands



###### **Add printer**

Create and configure a printer. See the following section for more details.



###### **Remove printer**

Delete all configuration data for the current printer, including any print job files, and the queue.



###### **Update**

Modify the configuration data for the current printer.



###### **Clear print queue**

Remove **all** print jobs in the current printer's queue.



###### **Pause print queue**

Pause the printing of all print jobs in the current printer's queue. This should only be used if the printer requires attention.



#### Resume print queue

Resume printing the current printer's queue.



#### Resume all print queues

Execute this command to resume the printing of all paused queues.



#### Delete job

Delete the selected print job.



(Red)

#### Pause job

Pause the selected print job. This makes the printer unavailable for other users.



(Green)

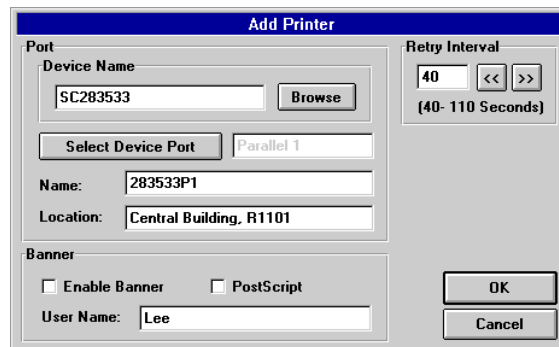
#### Resume job

Resume a paused print job.

#### 7.5.4.3. Pserver configuration

Before you can print using the printers connected to your FastPrint, both Pserver and Windows must be configured. To configure Pserver, follow the instructions below.

1. Start the Psever utility by clicking on its Icon.
2. Select the Printer Menu and choose **Add**.
3. When prompted with the **Add Printer** dialogue box (see example below), enter the configuration information as described in *Software configuration* on page 47.

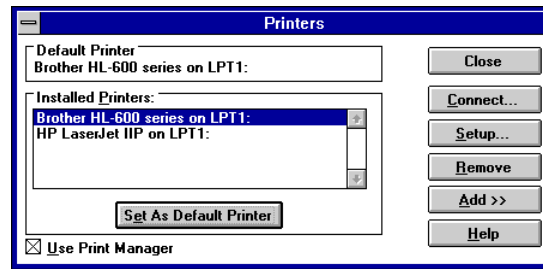


**Figure 16 Pserver Add Printer**

4. Upon clicking OK, the Pserver utility will automatically create a print queue for the port just added.
5. Repeat steps 2 to 4 for each printer. Ensure that you select a different FastPrint port each time, and that each port has a unique name.

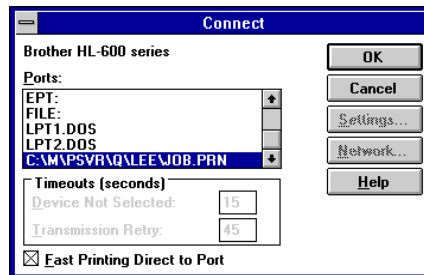
#### 7.5.4.4. Control Panel configuration

1. Go to Control Panel and invoke the **Printers** icon. The following Printer dialog box will appear:



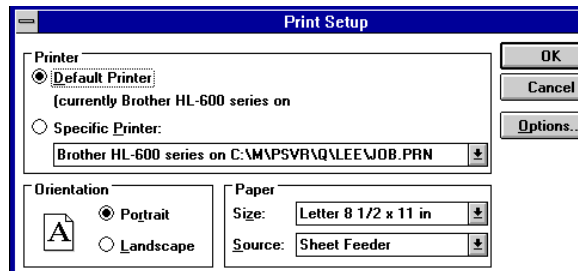
**Figure 17 Control Panel - Printers (WfW)**

2. Follow the normal process to add each printer that is attached to the FastPrint.
3. Each printer must be associated with the print queue it will service. Click the **Connect** button and the following *Connect* dialogue box will appear:



**Figure 18 Printer Connect (WfW)**

4. From the **Ports** list, select the queue that services the FastPrint Server port to which the printer is connected.
5. Repeat steps 3 and 4 to associate each printer with a queue.
6. Setup is complete. Now whenever you select Windows **Print Setup**, the printer and its associated queue will appear in the printer list as shown in the example below.



**Figure 19 Print Setup (WfW)**

## 7.6. Printing

Printing with the FastPrint Server in the Windows Peer-to-Peer environment is the same as printing with the printer attached directly to your local LPT port. Simply select **File**→**Print**. When the *Print* screen appears, select the appropriate printer and options and click **OK**.

**Note:** In Windows for Workgroups, use **Pserver** to manage your print jobs, rather than Windows Print Manager.



## 8. Management Tools

*This chapter explains the general-purpose management tools provided with your FastPrint Server.*

Your FastPrint is shipped with a variety of software programs to assist you to configure and manage the FastPrint and printers attached to it. Software that is specific to a particular platform is discussed in the relevant chapter. The general-purpose management programs explained in this chapter are as follows.

Program	LAN Protocol	Operating System	SNMP	I.P.	C.P.
Wpconfig	AppleTalk, Novell, TCP/IP, NetBEUI	Win 3.1	No	No	No
FPSAdmin	AppleTalk, Novell, TCP/IP, NetBEUI	Win 95, Win NT	Yes	Yes	Yes
WebAdmin	AppleTalk, Novell, TCP/IP, NetBEUI	Win NT Server + Browser	Yes	No	Yes

**I.P.:** Internet Printing Configuration.

**C.P.:** Configure Printer

FPSAdmin is recommended because it supports all FastPrint Server features.

### 8.1. FPSAdmin

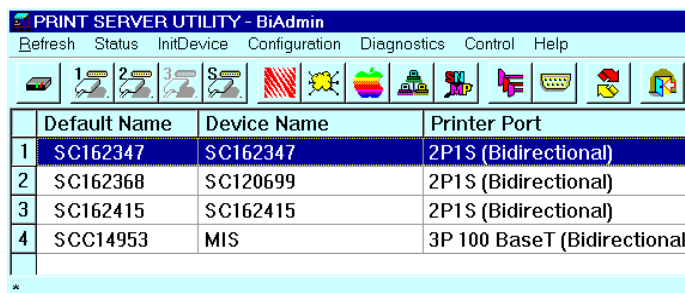
This section covers the installation and operation of the FPSAdmin management program. This program will run only on Windows 95 or Windows NT.

#### 8.1.1. Installation

1. Insert the supplied CD-ROM into your drive.
2. Run the Setup program in the \Utility\FPSAdmin directory.
3. Follow the on-screen instructions to complete the installation process.

#### 8.1.2. Main screen

When you run FPSAdmin, the program searches the network for all active FastPrints, then lists them on screen. See the example screen below.



The screenshot shows the 'PRINT SERVER UTILITY - BiAdmin' window. It has a menu bar with 'Refresh', 'Status', 'InitDevice', 'Configuration', 'Diagnostics', 'Control', and 'Help'. Below the menu is a toolbar with icons for various functions. The main area contains a table with the following data:

	Default Name	Device Name	Printer Port
1	SC162347	SC162347	2P1S (Bidirectional)
2	SC162368	SC120699	2P1S (Bidirectional)
3	SC162415	SC162415	2P1S (Bidirectional)
4	SCC14953	MIS	3P 100 BaseT (Bidirectional)

**Figure 20 FPSAdmin Main Screen**

### 8.1.3. Icons

The icons provide status information as well as access to the selected FastPrint settings. If an icon is grayed out, that option is unavailable. For example, unsupported protocols are grayed out.



#### Device Information

*Menu equivalent: Status - Device Information*

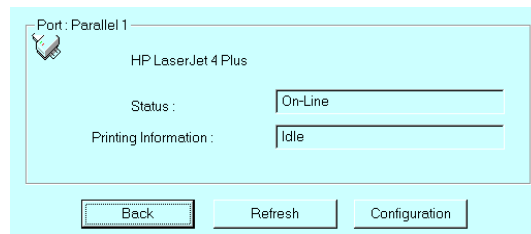
This option allows you to view all of the FastPrint settings in a scrollable list. The data can not be changed.



#### Printer Status

*Menu equivalent: Status - Port Status*

There is one icon for each parallel port. Non-existent ports are grayed out. Selecting an icon will result in a screen like the following example:



**Figure 21 Printer Status**

If the printer is bi-directional, and the printer is not busy, the *Configuration* button will be available, allowing you to change the configuration of the attached printer. See *Printer configuration*, below, for more details.

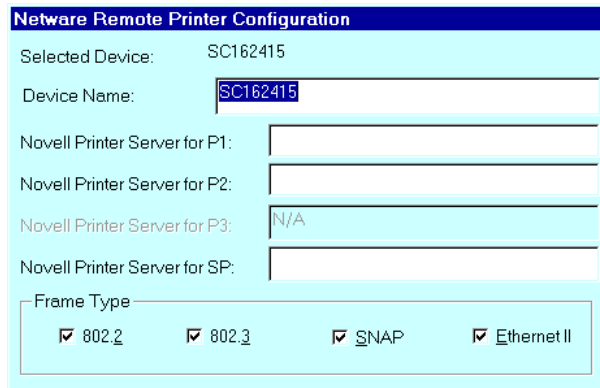


#### NetWare

*Menu equivalent: Configuration – NetWare*

Select the Operation Mode (Print Server or Remote Printer) and click *Print Server Configuration*. You will see one of the following screens:

**Figure 22 NetWare Print Server Configuration**



The screenshot shows the 'NetWare Remote Printer Configuration' window. At the top, the title bar is blue with white text. Below it, the 'Selected Device' is 'SC162415'. The 'Device Name' field contains 'SC162415'. There are four text input fields for 'Novell Printer Server for P1:', 'Novell Printer Server for P2:', 'Novell Printer Server for P3:', and 'Novell Printer Server for SP:'. The 'Novell Printer Server for P3:' field contains 'N/A'. Below these fields is a 'Frame Type' section with four checked checkboxes: '802.2', '802.3', 'SNAP', and 'Ethernet II'.

**Figure 23 NetWare Remote Printer Configuration**

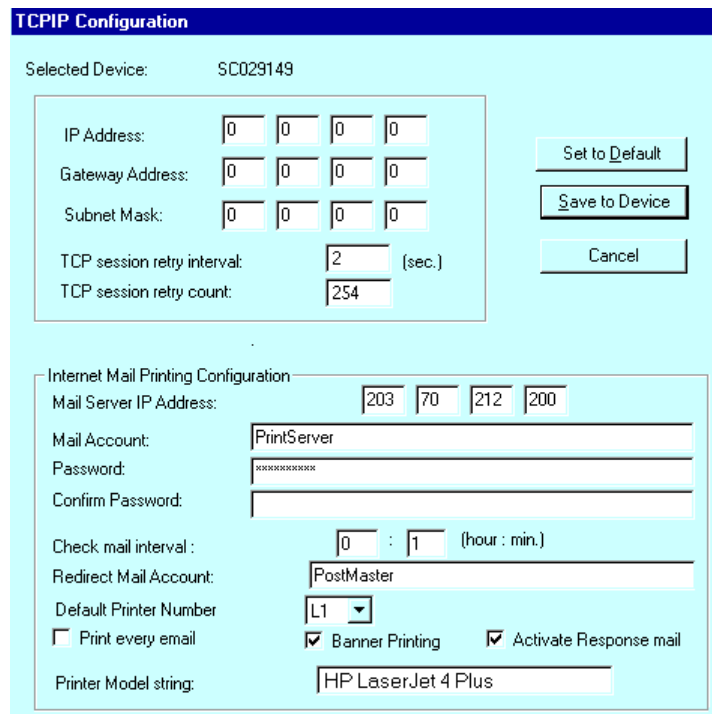
See *NetWare-specific settings* on page 19 for details.



### TCP/IP Configuration

Menu equivalent: *Configuration - TCP/IP*

Selecting this icon will cause the following screen to appear.



The screenshot shows the 'TCP/IP Configuration' window. The title bar is blue with white text. Below it, the 'Selected Device' is 'SC029149'. The window is divided into two main sections. The top section contains fields for 'IP Address:', 'Gateway Address:', and 'Subnet Mask:', each with four input boxes. Below these are 'TCP session retry interval:' (with a value of 2 and '(sec.)') and 'TCP session retry count:' (with a value of 254). To the right of these fields are three buttons: 'Set to Default', 'Save to Device', and 'Cancel'. The bottom section is titled 'Internet Mail Printing Configuration'. It contains fields for 'Mail Server IP Address:' (with values 203, 70, 212, 200), 'Mail Account:' (with value 'PrintServer'), 'Password:' (with masked characters), and 'Confirm Password:'. Below these are 'Check mail interval:' (with values 0 and 1 and '(hour : min.)'), 'Redirect Mail Account:' (with value 'PostMaster'), 'Default Printer Number' (with a dropdown menu showing 'L1'), and a checkbox for 'Print every email'. There are also two checked checkboxes: 'Banner Printing' and 'Activate Response mail'. At the bottom is a 'Printer Model string:' field with the value 'HP LaserJet 4 Plus'.

**Figure 24 TCP/IP Configuration**

See *IP address configuration* on page 23 for details of the IP addresses (top half of the screen).

See *Internet mail printing configuration* on page 39 for details of Internet Mail Printing Configuration (bottom half of the screen).



## AppleTalk Configuration

Menu equivalent: *Configuration - AppleTalk*

Selecting this icon will cause the following screen to appear. See *AppleTalk Settings* on page 8 for details of these configuration settings.

**Appletalk Configuration**

Selected Device: MIS

Zone Name: a

Printer Type of P1: LaserWriter

Printer Type of P2: LaserWriter

Printer Type of P3: LaserWriter

Printer Type of SP: N/A

Communication Protocol of P1: ☒ ASCII ☐ Binary

Communication Protocol of P2: ☒ ASCII ☐ Binary

Communication Protocol of P3: ☒ ASCII ☐ Binary

Communication Protocol of SP: ☐ ASCII ☒ Binary

**Figure 25 AppleTalk Configuration**



### NetBEUI Configuration

Menu equivalent: *Configuration - NetBEUI*

Selecting this icon leads to the following screen.

**Figure 26 NetBEUI Configuration**

#### 8.1.3.1. NetBEUI Settings

##### ◆ Domain name

Enter the designated work group to be serviced by the FastPrint.

##### ◆ Response Time

Sets how fast jobs are sent to the printer. By default, this is set to no delay (zero). This value should only be increased if your printer cannot cope with no delay.

##### ◆ Abort Job As Paper Out

YES will terminate the current print job when a printing error is encountered. NO (default) will try to continue but may cause print errors. If errors occur, try setting this value to YES.

**Note:** *Normally, there should be no need to adjust these settings.*



### SNMP Configuration

Menu equivalent: *Configuration - SNMP*

See *Preparing the FastPrint Server for SNMP* on page 43 for details of these configuration settings.

After clicking this icon, the top section of the screen will look like this:

The screenshot shows the 'SNMP Configuration' window. It has a title bar 'SNMP Configuration'. Below it, there are three text input fields: 'Selected Device:' with the value 'SC162347', 'SysContact:' with the value 'Jeff Bridges', and 'SysLocation:' with the value 'R305'. Below these is a section titled 'Configuration Item:' which contains a table with two columns. The first column lists management stations M1, M2, M3, and M4. The second column lists traps T1, T2, T3, and T4. M1 and T1 are highlighted with a blue background.

Configuration Item :	
M1	T1
M2	T2
M3	T3
M4	T4

**Figure 27 SNMP Configuration**

If you select a management station (M1..M4), the bottom part of the screen will look like the following example.

The screenshot shows the 'M1' management station configuration screen. It has a title bar 'M1'. Below it, there are three text input fields: 'Manager IP Address:' with the value '203.70.212.211', 'Community String:' with the value 'public', and 'Access Permission:' with three radio buttons: 'Read Only', 'Read/Write' (which is selected), and 'Not Accessible'.

**Figure 28 SNMP Management Station**

If you select a trap (T1..T4), the bottom part of the screen will change. The following example is for T1.

The screenshot shows the 'T1' trap configuration screen. It has a title bar 'T1'. Below it, there are three text input fields: 'Trap Receive IP Address:' with the value '203.70.212.211', 'Community String:' with the value 'public', and 'Trap Option:' with two radio buttons: 'Enable' (which is selected) and 'Disable'. To the right of the 'Trap Option' section is a 'Trap Severity' section with three radio buttons: '1' (which is selected), '2', and '3'.

**Figure 29 SNMP Trap Configuration**



### Logical Port Configuration

Menu equivalent: *Configuration - Logical Port*

Logical printers can be used in the NetWare environment (see page 21) and under UNIX (see page 24). This option allows you to configure each logical printer.



**Refresh**

*Menu Equivalent: **None***

Select this icon to update the FastPrint listing after changing the name or IP address, or after powering up additional FastPrints.

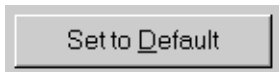


**Exit**

*Menu Equivalent: **Help - Exit***

Exit FPSAdmin.

**Note:** Remember to save any changes to the FastPrint before you exit.



**Set to Default**

This button appears on many screens. Clicking it replaces the on-screen values with the default settings. They are **not** saved until you click *Save to Device*.

To set **all** FastPrint Server values to the default, use the menu option *InitDevice - Restore Factory Default*.



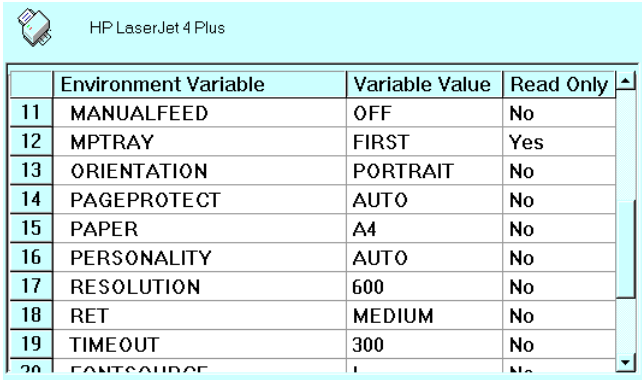
**Save to Device**

Clicking this will write any changed configuration information to the FastPrint, updating the FastPrint's NVRAM configuration file.

You must then reset the FastPrint Server. You may either use the *InitDevice* menu option to do this, or reboot the FastPrint.

8.1.3.2. Printer configuration

Clicking the *Configuration* button in the *Printer Status* window will reveal a window like the following example. This button will be grayed out if the printer does not support this option, or if the printer is busy printing.



	Environment Variable	Variable Value	Read Only
11	MANUALFEED	OFF	No
12	MPTRAY	FIRST	Yes
13	ORIENTATION	PORTRAIT	No
14	PAGEPROTECT	AUTO	No
15	PAPER	A4	No
16	PERSONALITY	AUTO	No
17	RESOLUTION	600	No
18	RET	MEDIUM	No
19	TIMEOUT	300	No
20	FONTSOURCE	1	No

**Figure 30 Printer Configuration**

**Environment variable**

This list of printer configuration variables will vary from printer to printer.

### Variable value

Displays the current setting. To change the variable value (if *Read Only* is NO), double click the line you wish to change, then enter or select a new value.

### Read only

Indicates whether or not the environment variable is adjustable.

## 8.1.4. Menu Options

### 8.1.4.1. InitDevice menu

#### ◆ Reset device

This will reboot the FastPrint. You should do this after making any configuration changes, or if the FastPrint Server stops responding after some problem.

#### ◆ Restore factory default

This will restore **all** FastPrint values to their factory defaults. To restore only the current screen, use the *Set to Default* button on the screen.

#### ◆ Set IP address

Use this to set a FastPrint IP address, gateway IP address, and network mask for a TCP/IP network.

You **must** enter the default FastPrint Server name, even if you have changed the name. See *IP address configuration* on page 23 for configuration details.

Save the data to the FastPrint Server and reset it.

If you want the main screen listing to reflect the new data, you must refresh the listing. Since the Refresh operation is fairly time-consuming, FPSAdmin won't run it automatically. This lets you make several changes at once, before refreshing all of them.

#### ◆ Attach remote

This is used to connect to a FastPrint Server on another LAN segment. Enter the IP address of the remote FastPrint Server. The Gateway (router) address must be set correctly.

#### ◆ Connected protocol

This option allows you to designate which LAN protocol will be used for communication between the selected FastPrint and this application. You should only select **one** protocol.

You may choose any protocol that is installed on your PC, even if it is not installed on the LAN.

### 8.1.4.2. Configuration menu

#### ◆ System

Use this option to change the FastPrint name, and to set the LAN protocol(s) supported by the FastPrint. The protocol used by your LAN (which is also the *Connected protocol* described above) should be enabled. To improve performance, any other protocols should be disabled.



**Note:** *By default, all protocols are enabled. This allows operation in any environment, but may degrade operation to some degree.*

#### 8.1.4.3. Diagnostics menu

##### ◆ Print test page

Use this option to print a test sheet from the selected FastPrint Server port. The test print out will include status information.

#### 8.1.4.4. Control menu

##### ◆ Abort mail print job

This option allows you to cancel a print job that has been received though the Internet Printing feature, and is currently printing. This can be used to terminate a print job that is not printing correctly.

## 8.2. WebAdmin

WebAdmin must be installed on a supported WEB server, and a compatible WEB browser used to run the WebAdmin program.

### 8.2.1. System requirements

<b>Server Operating Systems</b>	Microsoft Windows NT 3.51 and 4.0. (Workstation and Advanced Server)  Intel or Intel-compatible processors.
<b>Web Servers</b>	Microsoft Internet Information Server (IIS) 1.0 and 2.0.
<b>Internet Browsers</b>	Microsoft Internet Explorer 2.0, 3.0 and above. NetScape Navigator 2.0, 3.0 & above.

### 8.2.2. Server installation

1. Run the SETUP program in the Utility\Webadmin directory on the CD-ROM.
2. Follow the on-screen instructions.
3. By default, the program files will be installed to the following CGI directory:  
C:\LanEdge\FastPrint Server\WebAdmin
4. The alias *webadmn* for the CGI directory will be created and added to the system registry. If you wish to change the alias of the CGI directory, the procedure is as follows:
  - Choose: Start|Programs|MicroSoft Internet Server(Common)|Internet Service Manager.
  - Click the computer which has the service: WWW to display service content.
  - Click the *Directory* option to display directory content.
  - Select the *Alias* field, and type the name you want.
  - Check the access rights and ensure the directory is both readable and executable, then click *OK*.
5. Restart the PC to complete the setup.

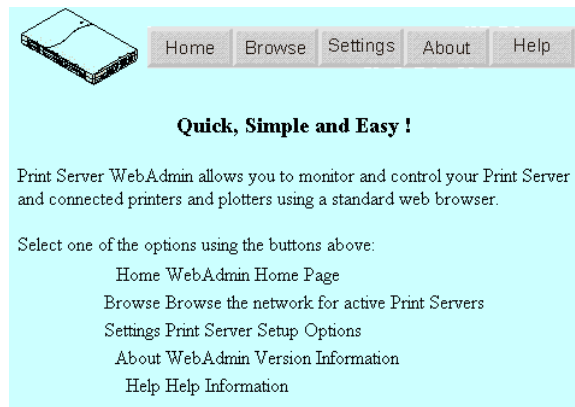
### 8.2.3. Running the program

- Start your WEB browser.
- In the *Address* box, type either the IP address or the domain name of the WebAdmin program, followed by the string:  
?application/x-msdownload

*example:*

`http://202.70.111.20/webadmin/webadmin.exe?application/x-msdownload`

You should then see a screen like the following example.



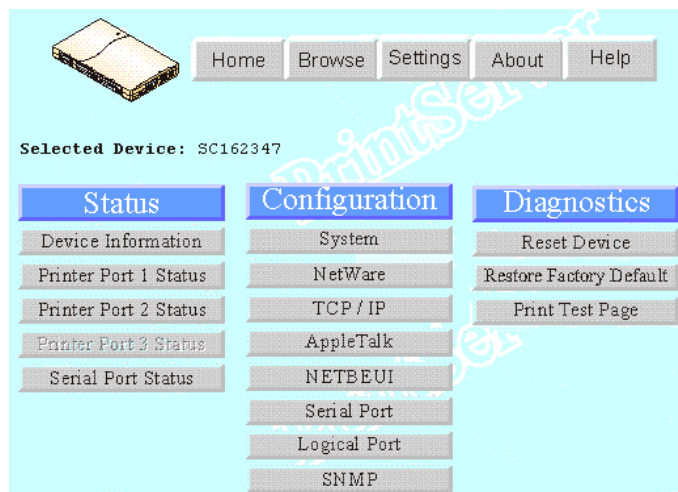
**Figure 31 WebAdmin Home Screen**

#### ◆ Home button

Clicking on the *Home* button from any other screen will return you to the *Home* screen shown above.

#### ◆ Browse button

The *Browse* button will generate a list of FastPrint Servers. Click on the selected FastPrint to configure it. You will see a screen like the following:



**Figure 32 WebAdmin Selected Device**

### 8.2.3.1. Status

These options allow you to check the status of connected printers or FastPrint Servers.

#### Device information

A list of the current FastPrint Server settings will be displayed.

#### Printer port status

Click the button for any port to check the status of the attached printer, as shown by the sample screen below.

Parallel Port 1 Status	
Selected Device: SC162347	
Printer Model:	HP LaserJet 4 Plus
Status:	On-Line
Printing Information:	Idle
<div>Back   Refresh   Configuration</div>	

**Figure 33 WebAdmin Port Status**

If the printer is bi-directional and is not busy, it can be configured by clicking the *Configuration* button. See *Printer configuration* on page 61 for details.

### 8.2.3.2. Configuration

These options allow you to configure the current FastPrint.

#### System

Allows you to change the FastPrint Server name, and to set the LAN protocol(s) used by the current FastPrint. Only the *Connected protocol* referred to on page 67, and your LAN protocol, should be enabled.

**Note:** *By default, all protocols are enabled. This allows operation in any environment, but degrades performance.*

#### Netware

Configure NetWare with this icon. See *NetWare-specific settings* on page 19 for configuration details.

#### TCP/IP

Use *Settings -IP addresses* to initially assign an IP address, and this button for any subsequent changes. See *IP address configuration* on page 23 for details.

#### AppleTalk

See *AppleTalk Settings* on page 8 for details of these configuration settings.

#### NetBEUI

Allows NetBEUI (Windows SMB) changes to be made. For details, see *NetBEUI Settings* on page 59.

### Logical port

Logical ports (printers) can be used under NetWare (see page 21) or Unix (see page 24).

### SNMP

See *Preparing the FastPrint Server for SNMP* on page 43 for details of the settings available from this button.

### 8.2.3.3. Diagnostics

This column of buttons allows you to perform tasks that are seldom required.

#### Reset device

Use this option to reset the FastPrint Server. This is equivalent to a power off and on. Resetting should be done after changing the configuration, or if the FastPrint ceases responding after a LAN or printer problem.

#### Restore factory defaults

Select this option to return all parameters to their factory default settings.

#### Print test page

Use this option to print a test sheet from the selected FastPrint Server port. The test page will contain status information.

#### Settings button

The *Settings* button will reveal the *Setup Options* screen:



**Figure 34 WebAdmin Setup Options Screen**

### IP addresses

See *IP address configuration* on page 23 for details of the IP addresses. You need to know the FastPrint's default name.

**Note:** With the TCP/IP protocol, you must set an IP address before anything else.

### Attach remote

Connect to a FastPrint on another network segment.

### Connected protocol

Change the protocol used for communication between the program and the current FastPrint Server.

## 8.3. WPCONFIG

WPCONFIG can be run from any Windows PC that has IPX and SPX protocols loaded. For Windows 95 or NT, the FPSAdmin Program is recommended, because WPCONFIG does **not** support the following features.

- Printer configuration
- SNMP configuration
- Internet printing

### 8.3.1. Installation

1. Run the SETUP program in the Utility\Wpconfig directory on the CD-ROM.
2. Follow the on-screen instructions.

The Setup program will automatically create a WPCONFIG group containing two icons: WPCONFIG and Readme.

### 8.3.2. Using WPCONFIG

When run, WPCONFIG searches the network for all active FastPrints, listing them as shown below.

Refresh Status Configuration Diagnostics Help			
Default Name	Device Name	Network No.	Printer Port(s)
sc029142	SC029142	14	2 Parallel, 1 Serial
SC030724	SC030724	44	MIO
SC120699	SC120699	14	2 Parallel, 1 Serial
SC127556	SC888888	18	2 Parallel, 1 Serial
SC555521	SC555521	21	1 Parallel
SC555522	SC555522	21	1 Parallel
SC555524	SC555524	21	1 Parallel
SC666667	JR_RP	21	1 Parallel (DA.)
Ready			

Figure 35 WPCONFIG Main Screen

### 8.3.3. Icons

The icons provide status information as well as access to the selected FastPrint settings. If an icon is grayed out, that option is unavailable.



#### Device information

This presents configuration information about the FastPrint in a scrollable, read-only list.



#### Printer port status

Shows current printer status (on-line, printing, off-line) for all ports.



#### NetWare

Configure NetWare with this icon. See *NetWare-specific settings* on page 19 for details.



#### TCP/IP

Initial configuration for TCP/IP must be done with FPSAdmin; later changes can be made here. See *IP address configuration* on page 23 for details.



#### AppleTalk

See *AppleTalk Settings* on page 8 for details of these configuration settings.



#### NetBEUI

NetBEUI (Windows SMB) changes can be made using this icon. Normally, there is no need to make any changes. See *NetBEUI Settings* on page 59 for details.



#### Logical Printers

Logical printers can be used under NetWare (see page 21) or Unix (see page 24).



#### Refresh

Update the FastPrint listing. You must always do this after changing the FastPrint Server name or IP address.



#### Exit

Exit WPCONFIG.



#### Help

Show WPCONFIG version information.

### Set to Default button

This button will restore current screen values to their factory defaults.

### Save to Device button

Press this button to save any changes to the FastPrint Server.

**Note:** *Changed values will **not** be saved until you click this button!*

#### 8.3.4. Menu options

##### ◆ Configuration menu

###### System

Allows you to change the FastPrint name and to set the LAN protocol(s) used by the current FastPrint. Only the IPX and your LAN protocol should be enabled.

**Note:** *By default, all protocols are enabled. This allows operation in any environment, but degrades performance.*

###### Reset device

This should be done after making any configuration changes, or if the FastPrint stops responding.

###### Restore factory defaults

This restores **all** values to the factory defaults. To restore only the current screen, use the *Set to Default* button on the screen.

##### ◆ Diagnostics menu

###### Print test page

Use this option to print a test sheet from the selected FastPrint Server port. The test printout will include status information.

# Appendix A. Troubleshooting

*If your FastPrint Server is not working correctly, follow the advice in this appendix.*

If you encounter printing difficulties, please refer to the *Hardware* section first, and then go to the *Printing* section. If, after following the advice in this chapter, the FastPrint still does not function properly, please contact your dealer for further advice.

## A.1. Hardware

**All the FastPrint Server's LEDs are off.**

Check the power supply or power connection.

**FastPrint's status light continuously stays lit.**

Reset the FastPrint by unplugging the power supply and plugging it back in.

**FastPrint Server status light and power light stay on continuously and do not turn off.**

Reset the FastPrint by unplugging the power supply or by pushing the reset button.

**I am using DHCP, and getting an IP address conflict involving the FastPrint.**

If the FastPrint Server is left on, but the DHCP server is turned off, then the FastPrint will retain its IP address without the DHCP Server being aware of it. Simply reset the FastPrint so it will obtain a new IP address.

This problem will also arise if you assign a static IP address which is within the range used by the DHCP server.

If so, use another address which is **not** within the range used by the DHCP server.

**I am using WPCONFIG on Windows 95, and having problems configuring the FastPrint Server.**

WPCONFIG is designed for Windows 3.1 only. For Windows 95/NT, you should use FPSAdmin.

## A.2. Printing - General

**When using 10BaseT cabling, the FastPrint Server does not work.**

Check the hub's link LED for the port to which the FastPrint is connected. If it is off, there is a problem in the network cable.

If using 10BaseT or 100BaseT, check the LED next to the connector. It should be on if the network connection is OK.



**A printer connected to a FastPrint Server port cannot print or prints garbage.**

Try the following:

- Check the cable connection between the FastPrint and the printer.
- Make sure the printer driver in the application program or Windows matches the printer.

**The *Configuration* button on the *Printer Status* screen in FPSAdmin is grayed out, even though my printer is bi-directional.**

The button is unavailable if the printer is busy. You must wait until the printer is idle.

## **A.3. Printing - AppleTalk**

**Why do I get an incorrect printout?**

- You may have chosen binary encoding to print the file. Try to use ASCII encoding.
- Some of the fonts in your print file may not be supported by the printer. If you are using the LaserWriter 8.1.1 driver, try either LaserWriter 7 or LaserWriter 8.5.1 instead.

**I can't find the FastPrint Server's name in the Chooser.**

Try the following:

1. Make sure that AppleTalk is on (the button next to Active is highlighted in the Chooser).
2. Make sure the printer has been on and in the READY state for a few minutes.
3. Make sure the printer has not been renamed since its last appearance in the Chooser.
4. If the printer resides on a network with multiple zones, make sure the correct zone is selected from the AppleTalk Zones box in the Chooser.

**My document didn't print to the right printer.**

Check the following:

- Another FastPrint with the same name may have received your print job. Use the PSTOOL to reconfigure your FastPrint Server name and make sure all FastPrint Servers have unique names.
- Make sure your application output encode is set to ASCII. If not, change it to ASCII.

**My file doesn't print with the correct fonts.**

If you are using the LaserWriter 8.1.1 driver, try either LaserWriter 7 or LaserWriter 8.5.1 instead

**My EPS file doesn't print with the correct fonts.**

This problem occurs in some programs. Try downloading the fonts contained in the EPS file before printing the saved EPS file.

**I can't select the *Remaining from:* item in the print dialog box.**

If you have selected the Layout value, 2 Up, or 4 Up, you cannot access the *Remaining from* item. Choose other selections.

**A cover page prints either on the first or last page of the document.**

Select one of these solutions:

- Turn the cover page feature off.
- Insert extra page breaks in your document to avoid the cover page printing on the first or last page of your document.
- If you are using the Apple LaserWriter 8.1.1 driver, install either version 7 or 8.5.1.

**Why do I have trouble printing with the LaserWriter 8.1.1?**

Your application software may not be compatible with the LaserWriter 8.1.1 driver or your system may not meet the requirements of the LaserWriter 8.1.1 driver. Use the Apple LaserWriter 8.5.1 or 7 driver instead.

**Why don't the colors on my printed output match the colors on my computer screen?**

When the printer receives a color file, it tries to match the printed output color to the color on the computer screen. Sometimes the printer cannot match up the colors as closely as you want. To alleviate this problem, perform the following steps:

1. Choose Calibrated Color/Grayscale in the *Print* pop-up menu in the *Print Options* dialog box. The printer will make adjustments to match the colors.
2. Check your monitor to make sure all settings (for example, brightness) are adjusted correctly.

**The blue color I chose on my screen is printing out purple.**

Choose Calibrated Color/Grayscale in the *Print* pop-up menu in the *Print Options* dialog box.

**When I send a print job, I get a PostScript Command error or no print out.**

Check the communication protocols. **The computer, FastPrint Server and printer must all be configured to use the same communication protocol** (either binary or ASCII). To configure your system:

1. Choose the protocol you are going to use. Check your printer as well; it may require that you use a particular protocol.
2. Set your printer to the correct protocol.
3. Use the computer's *print* submenu to configure your computer to use the protocol (ASCII or binary) you have chosen.
4. Configure the **FastPrint Server** as described on page 8.

### *A.3.1. The LaserWriter 8.1.1 driver*

Some application programs have incompatibilities with this driver. The following list describes known problems. If you experience problems, upgrade to the LaserWriter 8.5.1 driver. You may also contact the publisher of the program. A newer version of the program may be available.

**Aldus Freehand 3.11**

You cannot print using Layout options in the *Print* dialog box. If you select a layout option, the document does not print and no error message appears.

EPS files created from within Freehand cannot be used in other programs.

Selecting the *Unlimited Downloadable Fonts* option in the *Page Setup* option dialog box results in a PostScript error.

### **Aldus PageMaker 4.2a**

You cannot scale EPS images in documents printed using the Layout option in the Page Setup dialog box.

### **Aldus Persuasion 2.1.2**

When you print a document that contains gradient fill patterns, the document is printed with solid patterns instead of gradients.

Documents that contain EPS graphics may not print correctly if you select 2-Up or 4-Up printing.

### **Canvas 3.0.6**

Printing with substituted fonts may result in incorrect line layout.

### **Informed Manager 1.3.5**

Shaded headings in a document may not print correctly. Some documents will print with extra pages.

### **MacDraft 2.1**

When you print using the Cut Marks option, a PostScript error results.

### **Microsoft PowerPoint**

In PowerPoint version 2.01f, you cannot import an EPS file created with the Apple LaserWriter 8.1.1 driver that has been saved without preview information.

When importing EPS files, you may need to increase the memory allocated to the application.

### **Microsoft Works 3.0**

Printing documents that have rotated objects with rounded corners results in a PostScript error.

### **More 3.1**

When creating EPS files with the Apple LaserWriter 8.1.1 driver, be sure you have enough disk space to hold the file.

### **QuarkXPress 3.11**

You cannot print EPS files that contain certain TrueType fonts.

Using Calibrated Color results in a PostScript error.

### **Studio/8 and Studio/32**

For EPS files and the Apple LaserWriter 8.1.1 driver, you must select the QuickDraw Printer option.

## A.4. Printing - NetWare

### My FastPrint Server prints garbage.

The following steps will help to identify the problem:

1. Use PSCONFIG to print a diagnostic file.
  - (a) Run PSCONFIG and select your FastPrint from the list. Then select *Print Diagnostic Report*
  - (b) Select each port in turn and print a diagnostic report.
  - (c) Check whether the diagnostic report printed correctly.  
If the diagnostic report printed OK, the problem may be caused by incorrect system configuration. Go to step 2.  
If the diagnostic report printout is not OK, check your printer.  
If your printer is OK, call your dealer.
2. Print a test text file and a test graphic file. If the text file prints correctly but the graphic file prints garbage, then specify /NT (no tabs) option for the NPRINT or CAPTURE commands and print again. If both print incorrectly, go to step 3.
3. Temporarily disable the FastPrint servicing the print queue following the step-by-step instructions below:
  - NetWare 2.x and 3.x
    - (a) Run PCONSOLE. Select Print Queue Information, select the print queue that the FastPrint Server services, and then select Current Queue Status.
    - (b) Set *Servers can service entries in queue* to NO.
    - (c) Press Esc and select Print Queue ID. Record its queue ID.
    - (d) Send your test files to the print queue using normal print commands.
  - NetWare 4.x bindery and NDS modes
    - (a) Run PCONSOLE. Select Print Queues, select the print queue that your FastPrint services, and then select Status.
    - (b) Set *Allow service by current print servers* to NO.
    - (c) Press Esc and select Information, and record its queue ID.
    - (d) Send your test files to the print queue using normal print commands.
4. Re-route network printing to local printing.
  - (a) Disconnect the printer attached to your FastPrint and connect it to LPT1 of your PC.
  - (b) Change to the drive and then the directory on the file server that contains the print queue. The directory will have the name of the queue ID (e.g. \queues\Q\_ID for NDS mode or system\Q\_ID for bindery mode).
5. The test files you printed in step 3 should be in the queue directory. Print these files to the local printer using the COPY command with the /b option.  
*example:*  

```
Copy /b test.txt LPT1
```
6. Compare the printouts from the PC and the FastPrint Server.  
If the printouts are the same, then the problem is **not** the FastPrint. The problem might be that an incorrect printer driver was chosen or the timeout setting in the CAPTURE command is too short.  
If the printouts are **not** the same, there may be a problem with the FastPrint. Call your dealer.

7. Re-enable queue service.
  - (a) Disconnect the printer attached to LPT1 of your PC and connect it to your FastPrint.
  - (b) **For NetWare 2.x or 3.x**, run PCONSOLE and select Print Queue Information. Then select the print queue and select Current Queue Status. Set *Servers can service entries in queue* to YES.  
**For NetWare 4.x bindery and NDS modes**, run PCONSOLE and select Print Queues. Then select the print queue and select Status. Set *Allow service by current print servers* to YES.

**My FastPrint Server does not appear in PSCONFIG's Active Device List.**

- Ensure that the FastPrint Server is on the same network segment as your PC.
- Load the NetBEUI protocol on your PC, so that PSCONFIG can try connecting using NetBEUI. Once connected, check the following:
  - The NetWare protocol must be enabled.
  - The Ethernet frame type of your PC may not be the same as your FastPrint's. Enable all Ethernet frame types.

**My FastPrint Server is configured as a Novell Print Server, and cannot log in to a file server.**

The following steps may solve this problem:

1. Get the FastPrint information using PSCONFIG. If the FastPrint is configured as a Novell Print Server, the information will look like the following:

```
Server Name: SC110049
NetWare Information:
Master File Server: ICE
Print Server Mode Status:
Your_File_Server: Current Status
Remote Printer Mode Status: N/A
```
2. Make sure the master file server name is assigned correctly.
3. Check the current status of Your\_File\_Server:
  - Connected:
    - No action required
  - No file server:
    - Assign a master file server using PSCONFIG
  - Connecting to Server:
    - Wait and check whether the file server exists
  - Password Mismatch
    - Clear the NetWare password with PCONSOLE, or use WPCONFIG or FPSAdmin to set the correct password for the FastPrint Server.
  - FastPrint Server Not Defined
    - Install the FastPrint again
4. Check NetWare to see whether the login status of the FastPrint to the file servers is Ready. If it isn't, check the error message and perform the required corrective action.
5. Check the Novell file server's name. If it is over 20 characters long, rename it using no more than 20 characters.

6. If the file server is not in the status list and the FastPrint Server has logged into the master file server, it means that the file server has not been serviced by the FastPrint. Check to see if the file server is in the list of File Server To Be Serviced item of PCONSOLE. If not, insert the file server name to the list.

**My FastPrint Server is configured as a Novell Remote Printer, and can't log in to the Novell Print Server.**

1. Get the FastPrint Server information as described in “My printer is configured as a Novell Print Server”, above.
2. Check the fields after the following.  
Remote Printer Mode Status:  
For each logical printer, there will be a status entry. The status will be one of the following.  
Connected:  
    No action required  
Unable to find server:  
    Load NetWare Print Server.  
Connecting to server:  
    Wait and check whether the NetWare Print server is loaded  
Printer not defined  
    Install the FastPrint Server as a remote printer of a NetWare Print Server.
3. Check NetWare to see whether the FastPrint Server is ready. If it is not, check the error message and perform the required corrective action.
4. Check the NetWare Print Server's name. If it is over 20 characters, rename it using no more than 20 characters.

**My FastPrint Server cannot print the jobs sent to the print queue.**

1. Check whether the printer attached to the FastPrint is on-line.
2. Check whether your FastPrint Server is logged into the file server. (See “My printer is configured as a Novell Print Server”, above.)
3. Check the current status of the queue.  
Run PCONSOLE and select Print Queue Information. Then select the queue and select Current Queue Status. See if there are three YES's. If not, set them to YES.
4. Check whether the NetWare printer number is correct.  
0 = parallel port 1 of the FastPrint.  
1 = parallel port 2 of the FastPrint.  
2 = parallel port 3 of the FastPrint
5. Check to see if the FastPrint Server is a static queue server to the queue.  
Run PCONSOLE and select FastPrint Server Information. Then select FastPrint Server Configuration and select Queues Serviced by Printer. Select your desired printer and check whether the queue is on the list. If it is not, insert the queue into the list by pressing [Insert] key and select the queue. Then reset the FastPrint to service the new queue.
6. The total number of queues to be serviced may be over the limit of 56. If so, reduce the number of queues.

**I used the Capture command to print a job, but the job was separated into two parts.**

The timeout setting in the Capture command may be too short. You should increase the timeout value of the Capture command.

Use the option /TI=n of the Capture command to increase the time out value, where n is the value of timeout.

**PSCONFIG shows "No Response."**

This may be due to the following:

- The network traffic is busy now. Wait for a minute and then try it again.
- The FastPrint is not powered on. Power it on.
- The network cable is disconnected. Check the cable.
- The node address of the FastPrint may be the same as the node address of another device on the network.

**QUICKSET timed out while checking if the FastPrint Server had logged in to the file servers.**

This means that the FastPrint Server did not log in the master file server. It might be that the Ethernet frame types do not match.

1. Try to find a workstation that uses the same frame type as the FastPrint so that PSCONFIG can see the FastPrint. Or load the NetBEUI protocol on your PC and use WPCONFIG to connect to the FastPrint Server.
2. Set the FastPrint's frame type to the frame type that the master file server uses and disable all other frame types.

**I cannot receive Notify message in NetWare 4.x environment.**

1. Make sure you are a Notify member of the FastPrint.
2. Run NetAdmin and set the name of the Default Server to receive notification.

**I cannot use PCONSOLE to see Printer Status. or**

**The current server status in FastPrint Server Information is showing Down in the NetWare 4.x environment.**

It may be that you created the Print Server object in NetWare 3.x environment and used PCONSOLE in NetWare 4.x to view the status. Try the following:

1. Make sure the FastPrint is ON.
2. Delete the Print Server object of the FastPrint.
3. Install the FastPrint again in NetWare 4.x NDS environment.

**The "String Before Job" and/or "String After Job" settings in the logical printers don't work properly.**

- Check the length of the control strings. No string can exceed 15 characters.
- Check that the control strings are in HEX.

## **A.5. Printing - Unix**

**FastPrint Server is not recognized.**

Check the following:

- There are no routers between the FastPrint and the UNIX host during IP address assignment.
- Every NetWare file server must have TCP/IP support between the FastPrint and the UNIX host.
- The network cable to be used by the FastPrint Server is intact. Connect the cable to another network device and test it.
- You have used the correct physical address derived from the FastPrint default name.
- Use the ping command to see if the FastPrint Server is a valid device on the network.

**The standard interface program on SUN 5.2 cannot be used with Psfilter.**

Use `dumb_int.sh` which is the interface program shipped with FastPrint.

**When the interface program detects that the printer device is not a printer, a printer error message appears on the screen.**

Mark out all stty commands in the interface script.

**The .psopts file format is not accepted by BSD UNIX.**

If the prefix string and suffix string must contain control words or are too long, use `headfile` or `tailfile` instead of prefix string or suffix string.

**The FastPrint Server's IP address has been forgotten, and it needs to be installed in a new environment.**

Follow the steps below to set the FastPrint Server configuration back to the factory default settings:

1. Enter the command:

```
arp -s yyy.yyy.yyy.yyy 00:c0:02:xx:xx:xx
```

where:

yyy.yyy.yyy.yyy is the new IP address assigned to the FastPrint Server and xx:xx:xx is the default name of the FastPrint Server, without the leading "SC".

Combined with 00:c0:02, this gives the hardware address of the FastPrint Server.

2. Enter the commands:

```
ftp yyy.yyy.yyy.yyy
ftp>get DEFAULTC
ftp>quit
```

This will reset the configuration to the factory defaults (including setting the IP address back to 0.0.0.0).

3. Reconfigure as for a new FastPrint.

**While printing via FTP, I receive an error message:**

***Invalid print queue  
Print queue not ready***

- Check that the printer is ready.
- Check that logical printer(s) are defined on the FastPrint. With FTP, you can print ONLY to a logical printer.
- Reset the FastPrint.



### **I can't print using LPD.**

Try printing with FTP. If this works, the problem is the LPD daemon on your UNIX host. Reconfigure the remote printer and the LPD daemon. Check the following points:

- The remote host name is the name of the FastPrint.
- The remote printer name is the logical printer name on the FastPrint Server (e.g., L1).
- If your UNIX asks for the LPD type, be sure to identify the service type as BSD.

### **I can't print using PSfilter,**

Run PSfilter directly with the command:

```
PSfilter -D P_name -v <file_name&
```

where:

P\_name is the FastPrint's name

file\_name is the file you wish to print.

If this fails, check for an error log file (e.g. PSErrLog XXXXX) in the /tmp directory. If there is not an error log file, recompile PSfilter.

Also, check the Troubleshooting section of the Psfilter .TXT file for your system.

### **The "String Before Job" and/or "String After Job" settings in the logical printers don't work properly**

- Check the length of the control strings. No string can exceed 15 characters.
- Check that the control strings are in HEX.

## **A.6. Printing - Windows**

### **When printing from some software applications such as PowerPoint, it takes a long time and the printout is incorrect.**

The problem is that the printer has been configured to **Start printing after the first page is spooled**. To change this setting:

1. Go to Control Panel→Printers and click on your printer.
2. Then select File→Properties→Details.
3. When the Details screen appears, click the Spool Settings button.
4. When the Spool Settings dialogue box appears, choose *Start printing after last page is spooled* and click OK.

### **While adding my printer as instructed in Windows 95, I received a message stating that Printer could not be found.**

Some printer drivers, when configured as a local printer, will poll the printer to see if it is connected. Since the printer is networked, the printer can't be detected. To fix this, perform the following steps:

1. Select *Network printer* when asked *How is the printer attached to your computer?* When prompted for *Network Path or Queue* name, enter a dummy value such as \\54321 and select Next The printer wizard will display a message stating the Network Printer is off-line. Continue to install the printer as you normally would.
2. When finished, go to Control Panel→Printers and select your printer. The printer icon will be grayed out indicating the printer is not ready. Select Properties→Details.

In the *Print to the following port* box, select FastPrint Server. Click Apply, then OK, then close the Properties window.

3. Select the printer and go to the File menu. Check the *Work off-line* option is OFF.
4. If the printer is connected and powered On, the printer icon should no longer be grayed out, and you should be able to print.

**I connected and configured a WPS (Windows Printing System) printer as described, but I can't get the print job to print.**

WPS printer drivers poll the printer before sending print data. Since the printer is networked, the printer is not found and no data is sent. The solution is to add your printer as a network printer as described in "While adding my printer as instructed ..." above. The following lists some common WPS printers:

Canon LBP-430W	Epson EPL-5500/W
Epson ActionLaser 1300/W	HP LaserJet 5L
Lexmark WinWriter Series	NEC SuperScript series Olivetti PG304
	Samsung MyLaser Series

## A.7. Internet Printing

**I don't know my mail server's IP address.**

Use the PING command to connect to the Mail Server by name.

Example

```
ping ms.hinet.net
```

The reply will say

```
Reply from xxx.xxx.xxx.xxx
```

where: xxx.xxx.xxx.xxx is the IP address of the Mail Server.

**Plain text e-mails are not printed.**

Text e-mail messages are printed only if the FastPrint Server is configured with *Print every e-mail* ON.

**Plain text e-mails print OK, but if I include an attachment, I get an e-mail reply "Wrong Encoding Method".**

The Internet Printer system supports only Base64 encoding. Using the Internet Printing Port driver will ensure a correctly encoded attachment.

**A print job is printing garbage.**

Users must use the correct printer driver. The print job can be canceled using the *Control - Abort Mail Print Job* menu option in the FPSAdmin program.

**Two print jobs are printing on the same page.**

Change the port used for Internet Printing from a physical port to a logical port (printer). Configure the logical printer so that the *String after Job* contains a FF (form feed, decimal 12 or 0C in hex). See page 24 for details of logical printers.

**The print job seemed to go through OK, but it was never received.**

Check the e-mail address. If you use more than one internet printer with the same printer driver, ensure that you use the correct port each time you print.

**Only the banner page was printed.**

- This could be the same problem as “Plain text e-mails are not printed” on page 79.
- This could also be caused by using the wrong encoding method. Ask the user to use the InterNet Printing Port.

**The banner page is not correct; the first row has disappeared.**

This may be caused by the previous print job not sending a form feed after finishing printing.

Try sending print jobs to a logical printer with a post string of FF (form feed; 0C in hex).

To do this, define the logical printer, and set the port used for Internet Printing to this logical printer. See page 24 for details of logical printers.

## **A.8. WebAdmin**

**WebAdmin doesn't find all items within the “NDS Tree Names” and “Master File Servers”.**

This occurs only with IPX/SPX. The solution is to manually enable all 4 Ethernet frame types - Ethernet II, SNAP, 802.3, and 802.2.

**WebAdmin won't run on my browser.**

Check the following:

- Is your LAN/WAN connection OK?
- Is the URL correct? (Was WebAdmin installed in a directory other than the default?)
- Is the program name correct?  
`webadmin.exe?application/x-msdownload`
- Is the alias name “webadmin” set correctly?

**The screen contents have become scrambled.**

Click on any button or link to update it, or use your Browser's “Refresh” command.

**The picture on the home screen doesn't change.**

The picture is an animated GIF. Older browsers do not support animated GIFs.

## Appendix B. Specifications

FastPrint Server	
Power consumption	5W max.
External power adapter	12V DC
LEDs	3
Parallel port	Three Centronic female DB-25 connectors
Ethernet cables	10BaseT, 100BaseT

Environmental Specifications	
Operating temperature	0 ~ 40°C
Storage temperature	-10 ~ 70°C
Shipping temperature	-40 ~ 70°C
Operating humidity	10 ~ 80%
Storage humidity	5 ~ 90%
Shipping humidity	5 ~ 100%

Parallel Port Pin Assignments		
Pin	Signal Name	Direction
1	-Strobe	To printer
2	+Data 0	To printer
3	+Data 1	To printer
4	+Data 2	To printer
5	+Data 3	To printer
6	+Data 4	To printer
7	+Data 5	To printer
8	+Data 6	To printer
9	+Data 7	To printer
10	- ACK	To server
11	+ Busy	To server
12	+ Paper End	To server
13	+ Select	To server
14	- Auto Feed	To printer
15	- Error	To server
16	- Init	To printer
17	- Select In	To printer
18-25	GND	Ground

# Appendix C.

## Configuration File Format

The following table shows the CONFIG file details. It contains the following information:

### ◆ Default line

The line as obtained from the FastPrint Server. Each line has the following structure:

Line\_number Token:Parameter

where:

**Line\_number** is a system parameter and **must not** be changed.

**Token** is a readable identifier for the line.

**Parameter** is the current setting. A colon separates the **Token** from the **Parameter**.

### ◆ Allowable values

This column lists the values that may be used for the *Parameter*. The following items are used:

**Text[*n*]**, where *n* is a number, indicates a text field with a maximum length of *n* characters.

**Numeric[0..*n*]**, where *n* is a number, indicates the acceptable range of values for a numeric field.

**Access Code**, where the allowable values are: Read Only, Read/Write, Not Accessible.

### ◆ Description

Explains the purpose of the parameter.

Default Line	Allowable Values	Description
0001 BOX_NAME:SCxxxxxx	Text [19]	FastPrint Server name
0011 IPXSPX_P:Enable	Enable, Disable	NetWare protocol
0012 TCPIP_P :Enable	Enable, Disable	TCP/IP protocol
0013 APTALK_P:Enable	Enable, Disable	AppleTalk protocol
0014 NETB_P:Enable	Enable, Disable	NetBEUI protocol
0100 L1_PROUT:P1	P1, P2, P3	Port used by logical printer 1
0101 L1_PREST:	Text [15] (hex)	Pre-string LP 1
0102 L1_POSTR:	Text [15] (hex)	Post-string LP 1
0103 L1_CHGLF:No	Yes, No	Convert LF to LF/CR
0120 L2_PROUT:P1	P1, P2, P3	Port used by logical printer 2
0121 L2_PREST:	Text [15] (hex)	Pre-string LP 2
0122 L2_POSTR:	Text [15] (hex)	Post-string LP 2

Default Line	Allowable Values	Description
0123 L2_CHGLF:No	Yes, No	Convert LF to LF/CR
0140 L3_PROUT:P1	P1, P2, P3	Port used by logical printer 3
0141 L3_PREST:	Text [15] (hex)	Pre-string LP 3
0142 L3_POSTR:	Text [15] (hex)	Post-string LP 3
0143 L3_CHGLF:No	Yes, No	Convert LF to LF/CR
0160 L4_PROUT:P1	P1, P2, P3	Port used by logical printer 4
0161 L4_PREST:	Text [15] (hex)	Pre-string LP 4
0162 L4_POSTR:	Text [15] (hex)	Post-string LP 4
0163 L4_CHGLF:No	Yes, No	Convert LF to LF/CR
0180 L5_PROUT:P1	P1, P2, P3	Port used by logical printer 5
0181 L5_PREST:	Text [15] (hex)	Pre-string LP 5
0182 L5_POSTR:	Text [15] (hex)	Post-string LP 5
0183 L5_CHGLF:No	Yes, No	Convert LF to LF/CR
0200 L6_PROUT:P1	P1, P2, P3	Port used by logical printer 6
0201 L6_PREST:	Text [15] (hex)	Pre-string LP 6
0202 L6_POSTR:	Text [15] (hex)	Post-string LP 6
0203 L6_CHGLF:No	Yes, No	Convert LF to LF/CR
0220 L7_PROUT:P1	P1, P2, P3	Port used by logical printer 7
0221 L7_PREST:	Text [15] (hex)	Pre-string LP 7
0222 L7_POSTR:	Text [15] (hex)	Post-string LP 7
0223 L7_CHGLF:No	Yes, No	Convert LF to LF/CR
0240 L8_PROUT:P1	P1, P2, P3	Port used by logical printer 8
0241 L8_PREST:	Text [15] (hex)	Pre-string LP 8
0242 L8_POSTR:	Text [15] (hex)	Post-string LP 8
0243 L8_CHGLF:No	Yes, No	Convert LF to LF/CR
2000 NOP_MODE:PS	PS, RP	NetWare mode Print Server (PS) or remote printer (RP)
2001 NFRethII:Enable	Enable, Disable	Ethernet II frame type
2002 NFR802.2:Enable	Enable, Disable	802.2 frame type
2003 NFR802.3:Enable	Enable, Disable	802.3 frame type
2004 NFRSNAP :Enable	Enable, Disable	SNAP frame type
2101 NFS_NAME:	Text [20]	Master file server
2102 N_NOTIFY:No	Yes, No	Notification by node address
2103 N_FREQ :1	Numeric [0..255]	Polling queue interval
2110 NDS_TREE:	Text [39]	NDS tree name
2111 NCONTEXT:	Text [235]	NDS context
2501 NR_NAME1:	Text [19]	NetWare Print Server for parallel port 1
2502 NR_NAME1:	Text [19]	NetWare Print Server for parallel port 2
2504 NR_NAME1:	Text [19]	NetWare Print Server for parallel port 3
3000 AP_ZONE:*	Text [19]	AppleTalk zone

Default Line	Allowable Values	Description
3001 AP_TYPE1: LaserWriter	Text [19]	Printer type for parallel port 1
3002 AP_TYPE2: LaserWriter	Text [19]	Printer type for parallel port 2
3004 AP_TYPE4 LaserWriter	Text [19]	Printer type for parallel port 3
3101 AP_PCOMM1:No	Yes, No	ASCII (No) or binary (Yes) communication for parallel port 1
3102 AP_PCOMM2:No	Yes, No	ASCII (No) or binary (Yes) communication for parallel port 2
3104 AP_PCOMM4:No	Yes, No	ASCII (No) or binary (Yes) communication for parallel port 3
4000 IP_ADDR:0.0.0.0	IP address	FastPrint Server IP address
4001 GATEWAY:0.0.0.0	IP address	Gateway
4002 MASK :0.0.0.0	IP Mask	Subnet mask
4010 TCP_INT:2	Numeric [0..255]	Delay before reconnection attempt
4011 TCP_CNT:254	Numeric [0..255]	No. of reconnection attempts.
4100 MAIL_IP:0.0.0.0	IP address	Mail A/C IP address
4101 MAIL_ACC:	Text [19]	Mail A/C name
4102 MAIL_PAS:*****	Text [19]	Mail A/C password
4103 MAIL_INT:0	Numeric [0..64K]	Check mail interval
4104 MAIL_BAN:No	Yes, No	Mail banner page
4105 MAIL_RED:	Text [19]	Mail A/C name for redirection
4106 MAIL_POR:P1	P1..P3 L1..L8	Printer port (physical or logical) for Internet (mail) printing
4107 MAIL_EVR:No	Yes, No	Print every e-mail
4108 MAIL_NOT:No	Yes, No	Notify mail printed
4109 MAIL_MOD:	Text [19]	Mail printer model
5000 SMBGNAME:	Text [19]	NetBEUI group (domain) name
5001 SMBDROP:No	Yes, No	Abort print job if error
5002 SMBDELAY:0	Numeric [0..255]	Delay time
6000 CONTACT:	Text [31]	SNMP person
6001 LOCATION:	Text [31]	Contact location
6011 M1_IP:0.0.0.0	IP address	Management station 1
6012 M1_ACCP: Not Accessible	Access Code	Access rights
6013 M1_CSTR:	Text [7]	Community string
6021 M2_IP:0.0.0.0	IP address	Management station 2
6022 M2_ACCP: Not Accessible	Access Code	Access rights
6023 M2_CSTR:	Text [7]	Community string

<b>Default Line</b>	<b>Allowable Values</b>	<b>Description</b>
6031 M3_IP:0.0.0.0	IP address	Management station 3
6032 M3_ACCP: Not Accessible	<i>Access Code</i>	Access rights
6033 M3_CSTR:	Text [7]	Community string
6041 M4_IP:0.0.0.0	IP address	Management station 4
6042 M4_ACCP: Not Accessible	<i>Access Code</i>	Access rights
6043 M4_CSTR:	Text [7]	Community string
6111 T1_IP:0.0.0.0	IP address	Trap 1 address
6112 T1_S:0	Numeric [0.2]	Severity level
6113 T1_CSTR:	Text [7]	Community string
6114 T1_ENAB:Disable	Enable, Disable	Trap receive station 1
6121 T2_IP:0.0.0.0	IP address	Trap 2 address
6122 T2_S:0	Numeric [0.2]	Severity level
6123 T2_CSTR:	Text [7]	Community string
6124 T2_ENAB:Disable	Enable, Disable	Trap receive station 2
6131 T3_IP:0.0.0.0	IP address	Trap 3 address
6132 T3_S:0	Numeric [0.2]	Severity level
6133 T3_CSTR:	Text [7]	Community string
6134 T3_ENAB:Disable	Enable, Disable	Trap receive station 3
6141 T4_IP:0.0.0.0	IP address	Trap 4 address
6142 T4_S:0	Numeric [0.2]	Severity level
6143 T4_CSTR:	Text [7]	Community string
6144 T4_ENAB:Disable	Enable, Disable	Trap receive station 4



# Appendix D. SNMP MIB

## D.1. PSSystemConfig group

Object	Description
PrintServerName	The name of the FastPrint Server; default is SCxxxxxx.
NetwareProtocol	Netware protocol stack status.
TcpipProtocol	TCP/IP protocol stack status.
AppleTalkProtocol	AppleTalk protocol stack status.
NetbeuiProtocol	Netbeui protocol stack status.

## D.2. PSLogicalPrinterConfig group

Object	Description
LP1PhysicalPort	The physical port of logical printer 1.
LP1PreString	The string sent to logical printer 1 whenever a job begins.
LP1PostString	The string sent to logical printer 1 whenever the job ends.
LP1LFChange	Convert LF to LF+CR status.
LP2PhysicalPort	The physical port of logical printer 2.
LP2PreString	The string sent to logical printer 2 whenever a job begins.
LP2PostString	The string sent to logical printer 2 whenever the job ends.
LP2LFChange	Convert LF to LF+CR status.
LP3PhysicalPort	The physical port of logical printer 3.
LP3PreString	The string sent to logical printer 3 whenever a job begins.
LP3PostString	The string sent to logical printer 3 whenever the job ends.
LP3LFChange	Convert LF to LF+CR status.
LP4PhysicalPort	The Physical port of logical printer 4.
LP4PreString	The string sent to logical printer 4 whenever a job begins.
LP4PostString	The string sent to logical printer 4 whenever the job ends.
LP4LFChange	Convert LF to LF+CR status.
LP5PhysicalPort	The physical port of logical printer 5.
LP5PreString	The string sent to logical printer 5 whenever a job begins.
LP5PostString	The string sent to logical printer 5 whenever the job ends.
LP5LFChange	Convert LF to LF+CR status.
LP6PhysicalPort	The physical port of logical printer 6.
LP6PreString	The string sent to logical printer 6 whenever a job begins.
LP6PostString	The string sent to logical printer 6 whenever the job ends.
LP6LFChange	Convert LF to LF+CR status.
LP7PhysicalPort	The physical port of logical printer 7.
LP7PreString	The string sent to logical printer 7 whenever a job begins.
LP7PostString	The string sent to the printer 7 whenever the job ends.
LP7LFChange	Convert LF to LF+CR status.
LP8PhysicalPort	The physical port of logical printer 8.
LP8PreString	The string sent to logical printer 8 whenever a job begins.

LP8PostString	The string sent to logical printer 8 whenever the job ends.
LP8LFChange	Convert LF to LF+CR status.

### D.3. PSNetwareConfig group

Object	Description
FrameethernetIIEnable	EthernetII frame type status
Frame802-2Enable	Ethernet 802.2 frame type status
Frame802-3Enable	Ethernet 802.3 frame type status
FrameSnapEnable	Ethernet 802.2 SNAP frame type status
OperationMode	The current Netware operation mode. PS: Print Server mode, RP: Remote Printer mode.
MasterFileSrvrName	The name of the file server that the FastPrint will connect to first. The master file server contains all the information that the FastPrint needs, including a list of all other file servers to be serviced. (Netware 2.x, 3.x)
NDS_TreeName	The NDS tree name for Netware Print Server to login into. (Netware 4.x)
NDSContext	The NDS context where the Print Server's object belongs.
NetwareQPollingInterval	The Netware Print Server polling interval. The range is 1-255 minutes.
JobNotifyByConnID	When the job ends, Print will notify the user by the connection ID.
NetwarePrintServerP1	The Netware Print Server to connect to for parallel port 1, when the FastPrint is operating as a remote printer.
NetwarePrintServerP2	The Netware Print Server to connect to for parallel port 2, when the FastPrint is operating as a remote printer.
NetwarePrintServerP3	The Netware Print Server to connect to for parallel port 3, when the FastPrint is operating as a remote printer.

### D.4. PSTcpipConfig group

Object	Description
IPAddr	The FastPrint Server's IP address.
GatewayAddr	The default gateway IP address.
SubnetMask	The subnet network mask.

### D.5. PSAppleTalkConfig group

Object	Description
AppleTalkZone	The zone name where the FastPrint Server is located.
PrinterTypeP1	The printer driver type for parallel port 1.
PrinterTypeP2	The printer driver type for parallel port 2.
PrinterTypeP3	The printer driver type for parallel port 3.
BinaryCommEnableP1	Binary communication protocol status. When disabled, the data is transparently sent to the printer.
BinaryCommEnableP2	Binary communication protocol status. When disabled, the data is transparently sent to the printer.

BinaryCommEnableP3	Binary communication protocol status. When disabled, the data is transparently sent to the printer
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## D.6. PSNetbeuiConfig group

Object	Description
SMBGroupName	SMB group name.
SMBdropJob	Do you want to drop the job when printer is out of paper?.
SMBDelayInterval	SMB delay interval.

## D.7. PSStatus group

Object	Description
SystemInfo	This field contains the system information, including the F/W version, hardware address and current protocol status settings.
PrinterStatus	This field shows the current printer status.
PrinterInfo	Displays the device ID for each of the supported ports.

## D.8. PSIPXStatistics

Object	Description
IPXPrintJobServiced	Number of NetWare jobs serviced.
IPXBytesServiced	Number of NetWare data bytes serviced.
IPXEtherIIPacketReceived	Number of IPX packets received of EthernetII frame type.
IPX8022PacketReceived	Number of IPX packets received of Ethernet 802.2 frame type.
IPX8023PacketReceived	Number of IPX packets received of Ethernet 802.3 frame type.
IPXSnapPacketReceived	Number of IPX packets received of Ethernet 802.2 SNAP frame type.
IPXEtherIIPacketSend	Number of IPX packets sent of EthernetII frame type.
IPX8022PacketSend	Number of IPX packets sent of Ethernet 802.2 frame type.
IPX8023PacketSend	Number of IPX packets sent of Ethernet 802.3 frame type.
IPXSnapPacketSend	Number of IPX packets sent of Ethernet 802.2 SNAP frame type.

## D.9. PSAppleTalkStatistics

Object	Description
APPrintJobServiced	Number of AppleTalk jobs serviced.
APBytesServiced	Number of AppleTalk bytes serviced
APPacketReceived	Number of packets received by AppleTalk.
APPacketSend	Number of packets sent by AppleTalk.

## D.10. PSTcpipStatistics

Object	Description
IPPrintJobServiced	Number of TCP/IP jobs serviced.
IPBytesServiced	Number of TCP/IP bytes serviced.
IPPacketReceived	Number of packets received by TCP/IP.
IPPacketSend	Number of packets sent by TCP/IP.

## D.11. PSControl group

Object	Description
ResetPrinterServer	Reset (reboot) the FastPrint Server.
RestoreFactoryDefault	Restore the factory default settings.
ResetStatistics	Set the statistics counter back to zero.

## D.12. Traps

Trap	Description
printserverTrap	Printer status changed.